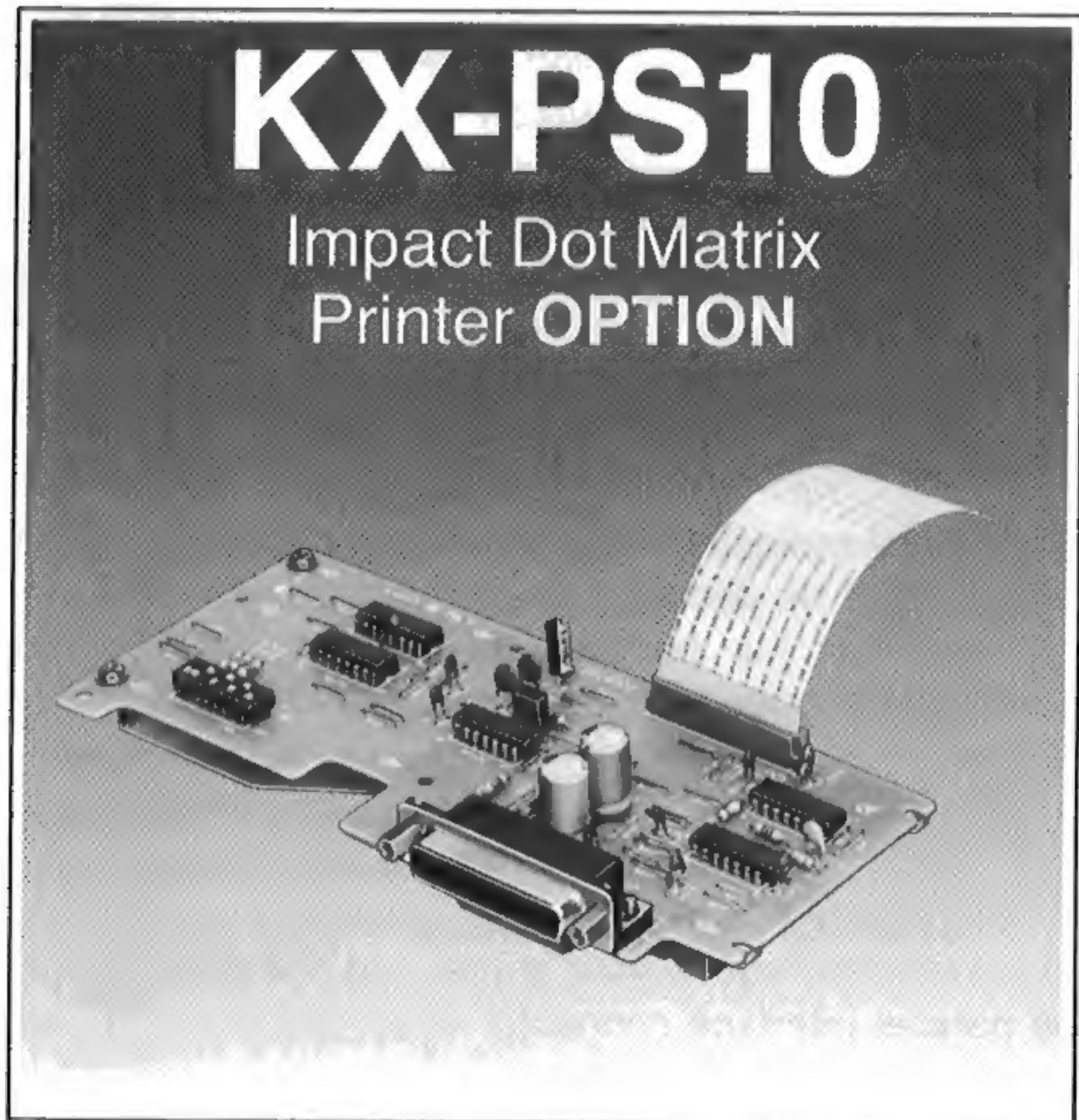


RS232C Adapter Manual



Panasonic

(FOR USERS IN THE U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B computing device in accordance with the specifications set forth in Subpart J of Part 15 of the FCC Rules. If this equipment does cause interference to radio or television reception which can be determined by turning the equipment on and off, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver. The user should use special accessories, such as a shielded cable, as recommended in these operating instructions, in order to continue to meet FCC emission limits and not possibly interfere with nearby radio and television reception.

(FOR USERS IN CANADA)

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

L'interférence radioélectrique générée par cet appareil numérique de type B ne dépasse pas les limites énoncées dans le Règlement sur les perturbations radioélectriques, section appareil numérique, du Ministère des Communications.

Caution:

- To prevent damage to your printer and computer, do not use the parallel interface connector when the RS-232C adapter board is installed in the printer.
- Cable: Use a shielded cable 2 meters or less in length.

Any details given in these Operating Instructions are subject to change without notice.

Outline

- This board is equipped with an RS-232C interface, and is used for asynchronous data transfer systems with transferring speed of 150 ~ 9600 baud.
- The functions (shown below) can be set by the 8 position DIP switch on the serial board (with KX-P1180/KX-P1191) or EZ Set Operator Panel on the printer (with KX-P1123/KX-P1124/KX-P1124i/KX-P1624/KX-P1695):
 - Baud rate
 - Parity check
 - Data length
 - Designation of signal polarity for DTR protocol
 - Selection of X/ON-X/OFF and DTR protocol

Contents

1. Preparation	3
[A] Parts and Accessories	3
[B] Installation	4
2. Communications Set Up	17
3. Setting the Printer Interface	17
[A] Using the KX-P1180/KX-P1191 with KX-PS10	17
[B] Using the KX-P1124 with KX-PS10	20
[C] Using the KX-P1124i with KX-PS10	23
[D] Using the KX-P1123/KX-P1624/KX-P1695 with KX-PS10	26
4. RS-232C Connector Pin Assignment and Signal Descriptions	27

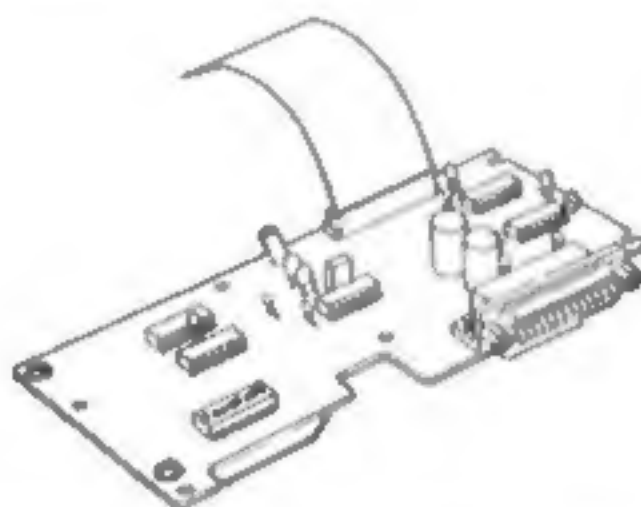
1. Preparation

A Parts and Accessories

After the unit has been unpacked, check that the parts and the accessories below are accounted for.

- (1) Serial interface board 1
- (2) Red screw A 3
- (3) Red screw B 2
- (4) Hexagonal screw 2
- (5) Spacer 1

Serial interface board



Red screw A



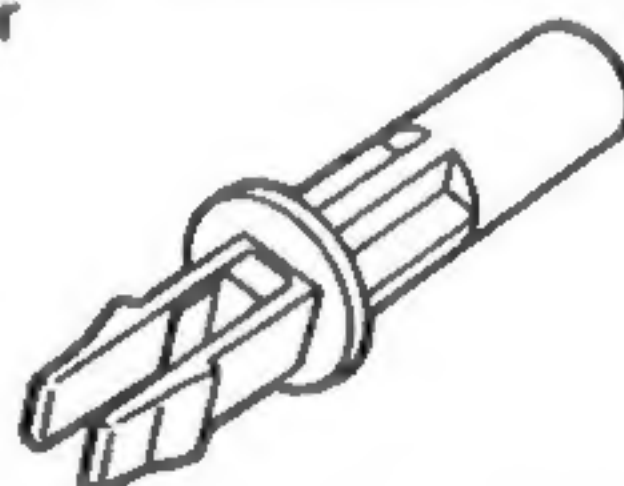
Red screw B



Hexagonal screw



Spacer



B Installation

Caution: Ensure that the power cord is disconnected before installation of the serial interface board.

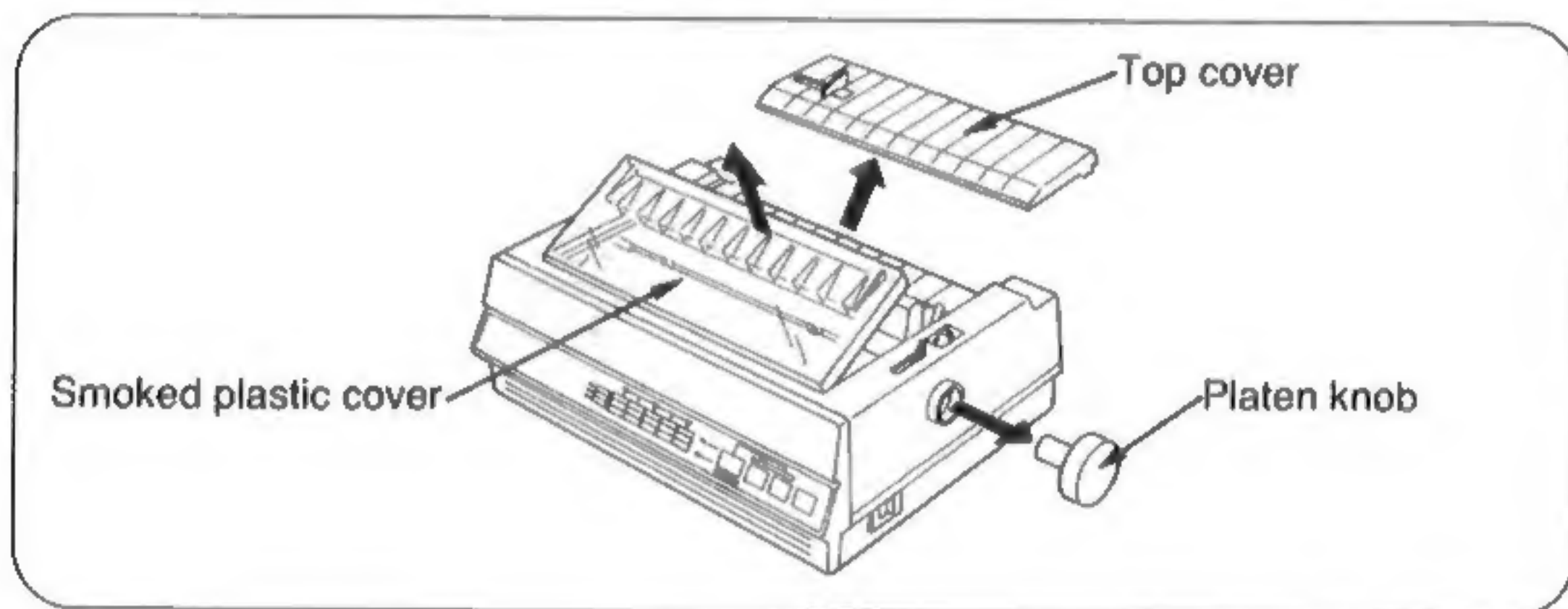
To install the serial interface board, refer to (A), (B) or (C) method depending upon your printer.

(A) KX-P1180/KX-P1191/KX-P1123

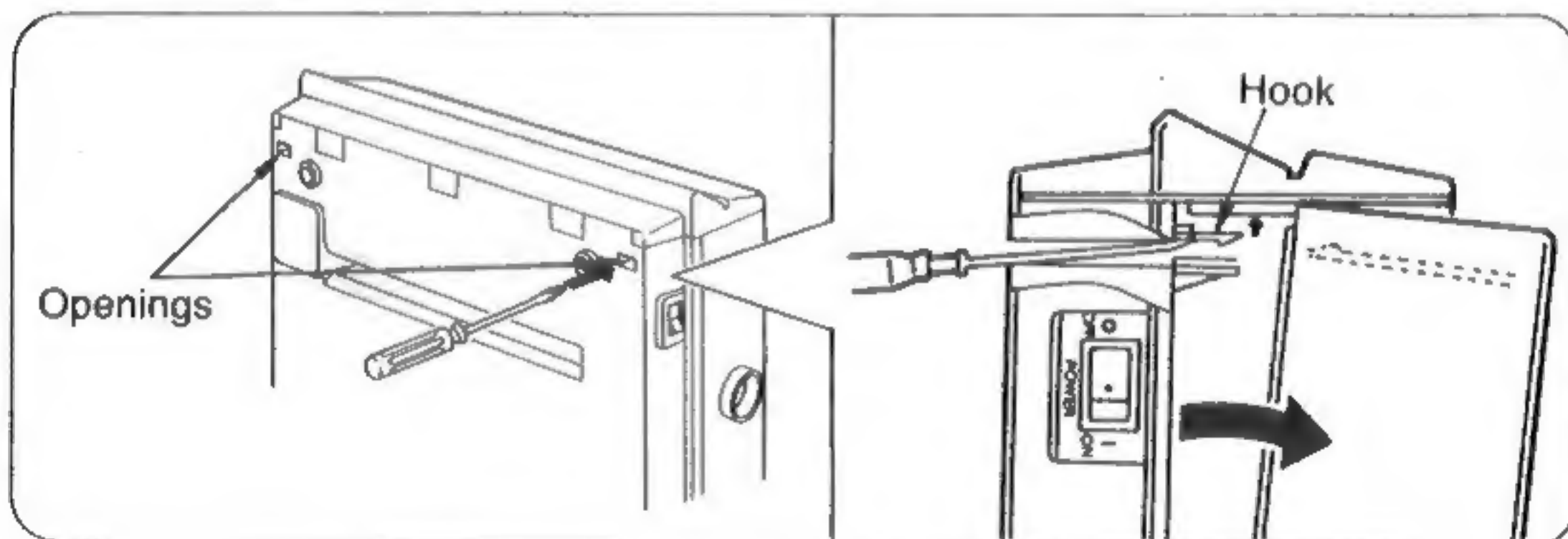
Note:

The illustrations you see are drawn from KX-P1180.

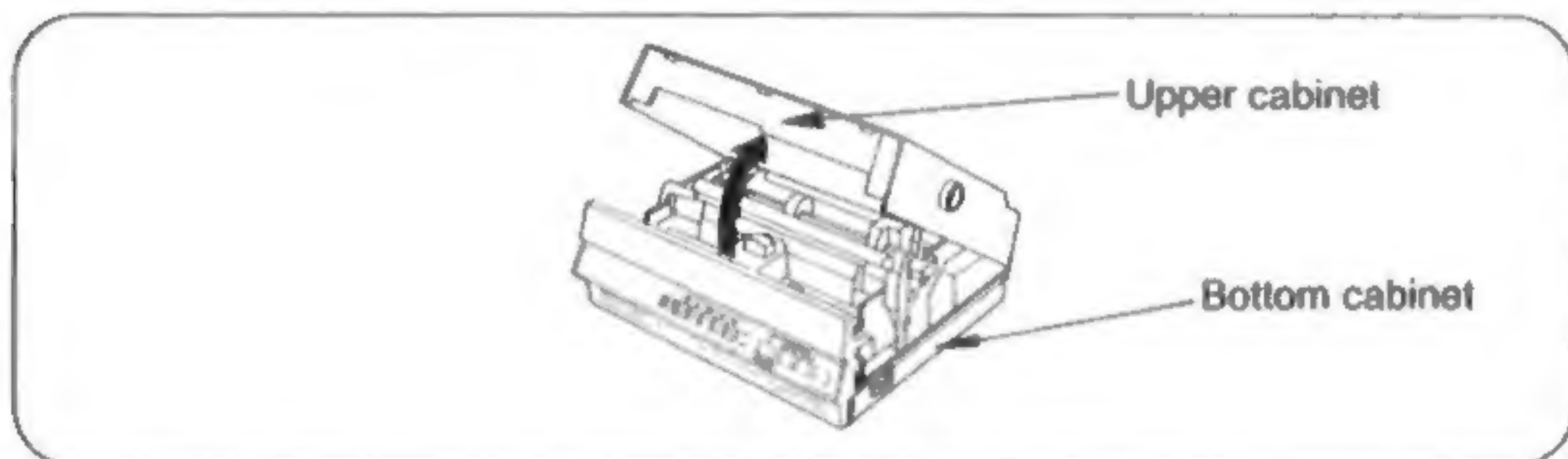
- (1) Remove the smoked plastic cover, top cover and the platen knob.



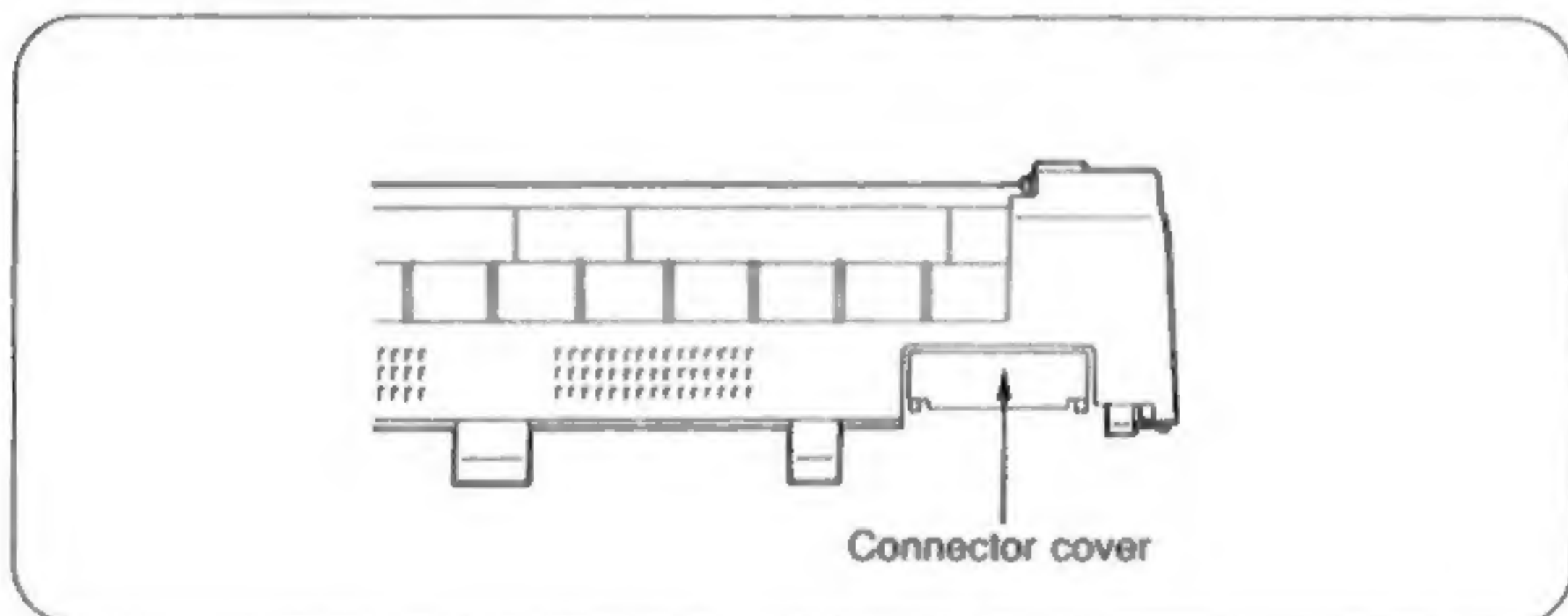
- (2) To remove the upper cabinet, raise the unit and insert a screwdriver [Philips 1/4" (6 mm)] straight in the center of the openings. Push the screwdriver to release the hooks.



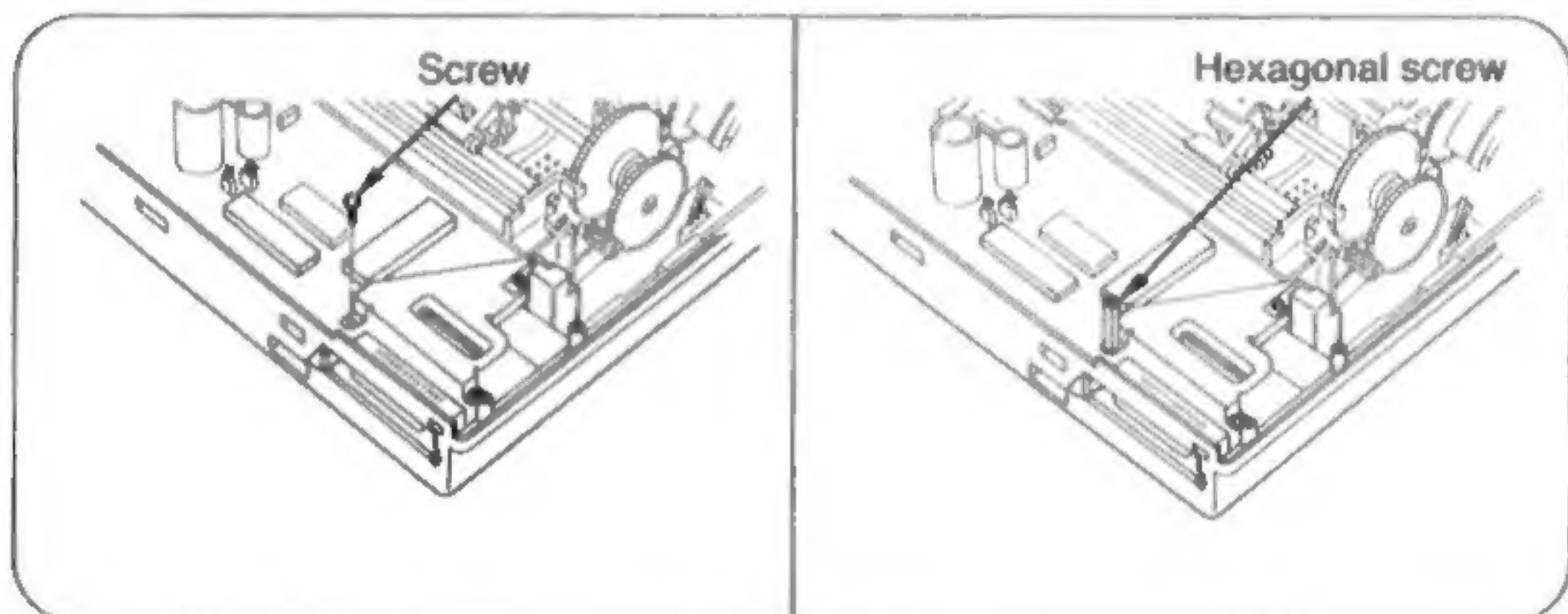
- (3) Carefully raise and remove the upper cabinet from the bottom cabinet.



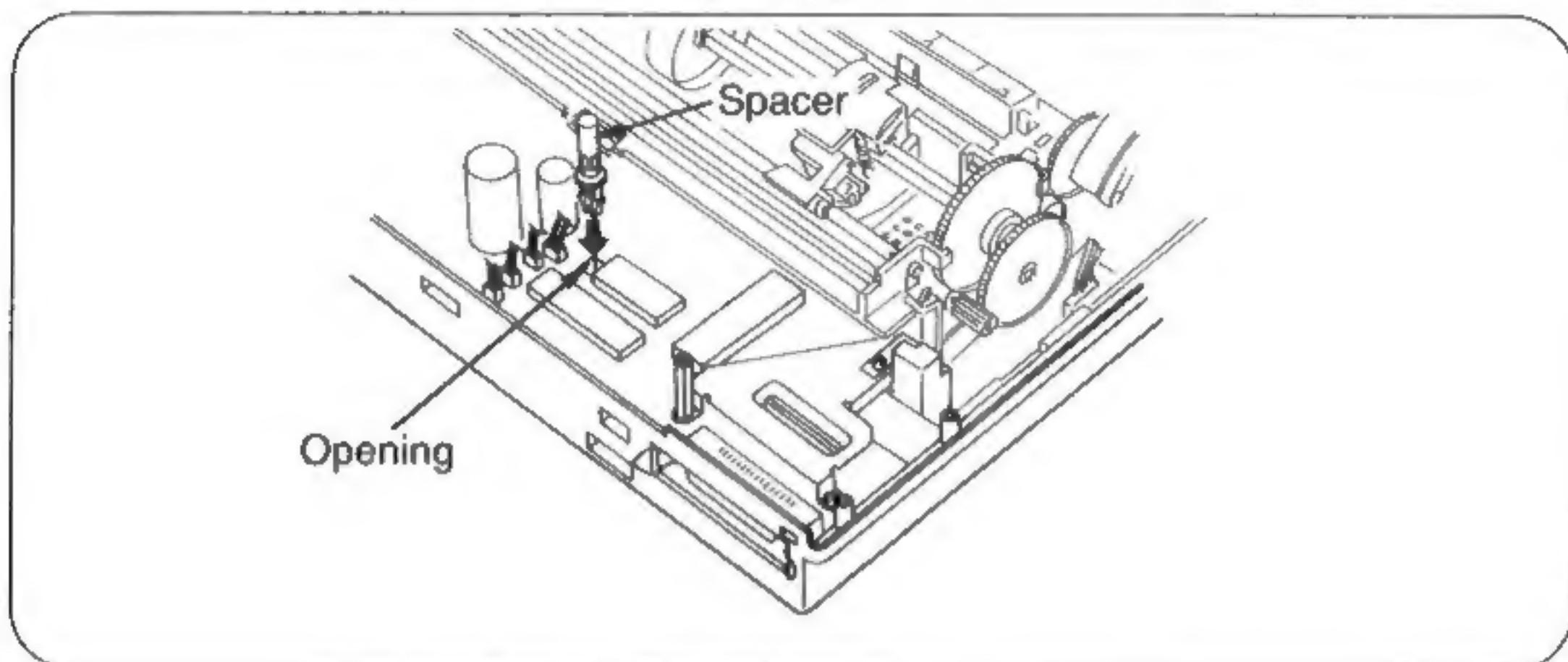
- (4) Remove the connector cover from the rear of the upper cabinet.



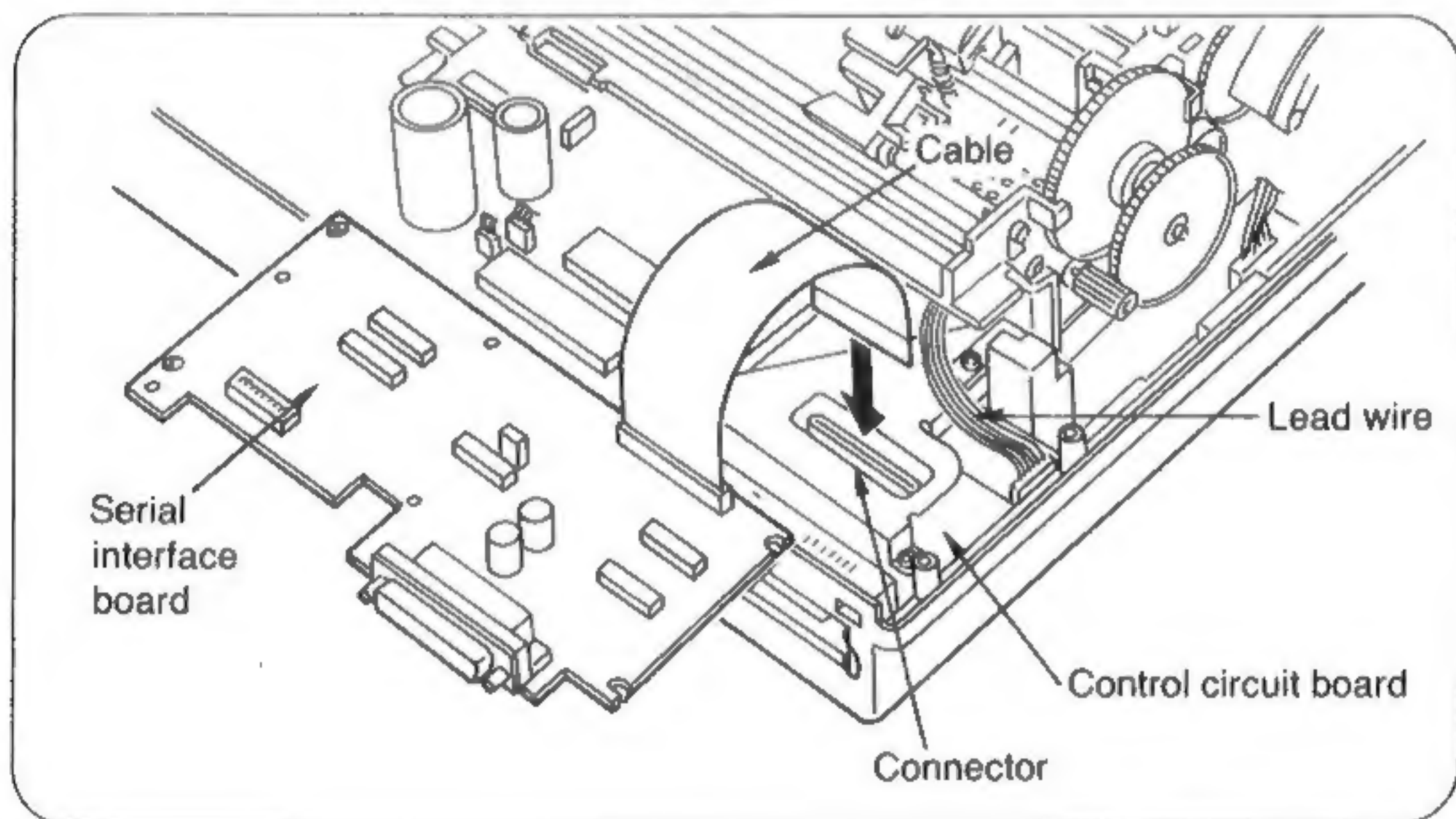
- (5) Remove the screw from the bottom panel, and then install the hexagonal screw.



(6) Install the spacer in the opening of the control circuit board.



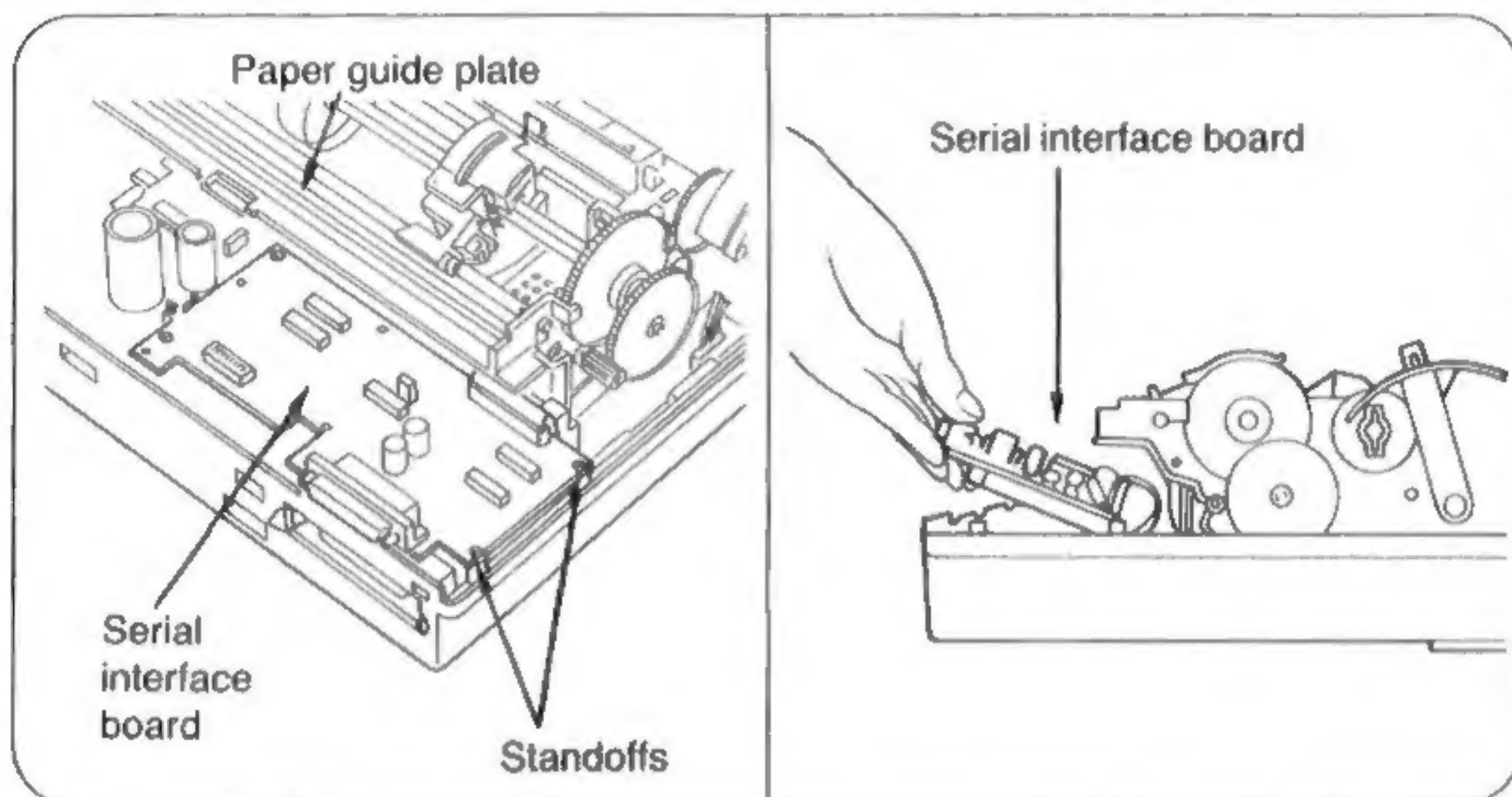
(7) Connect the cable of the serial interface board to the connector on the control circuit board inside the printer.



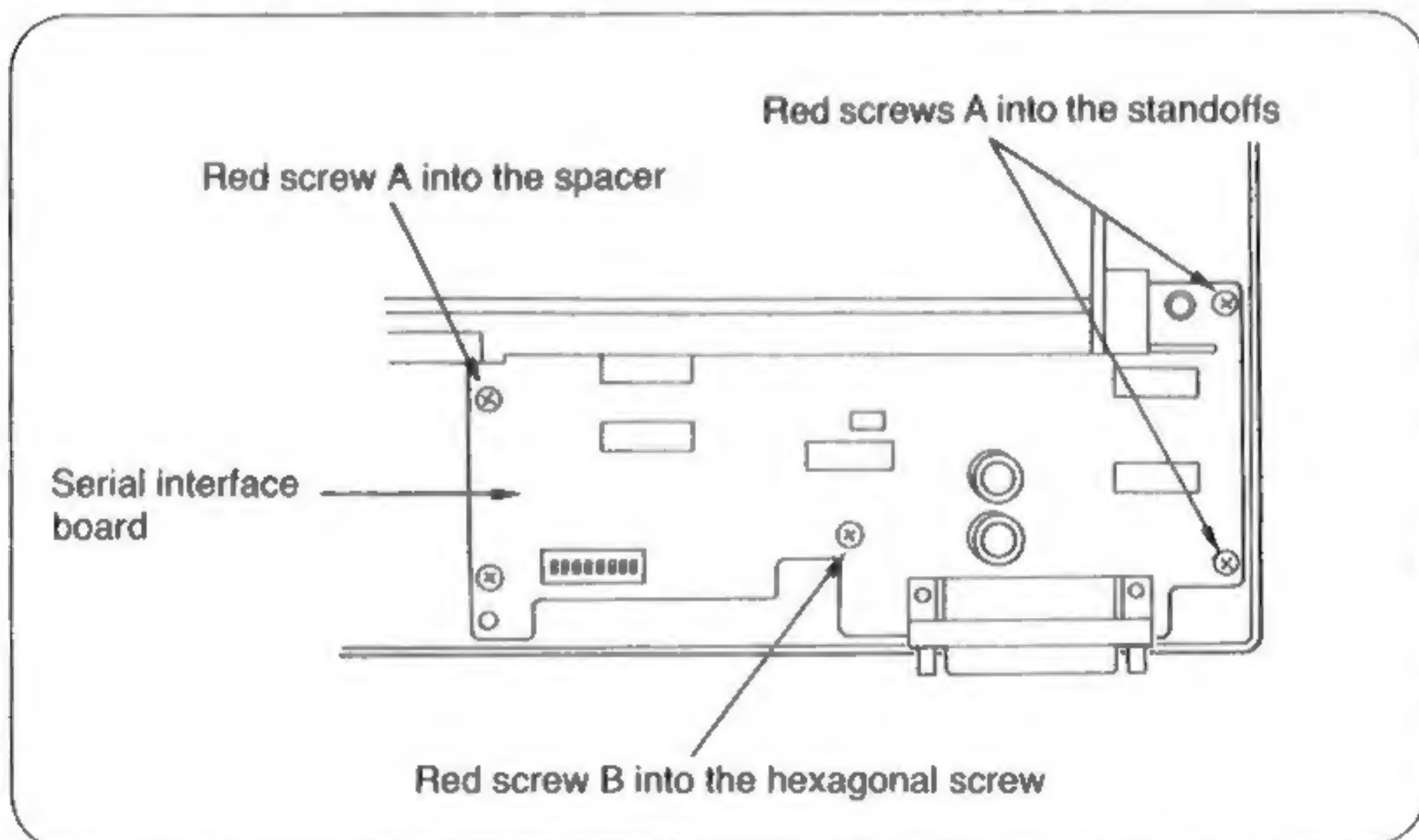
Note:

Push the lead wire to the left side under the paper guide plate.

- (8) Tuck the cable under the paper guide plate and insert the serial interface board on the spacer, hexagonal screw and two standoffs.



- (9) Secure the serial interface board with the three red screws A and one red screw B.



- (10) Set the computer parameters and the interface mode or DIP switches (refer to pages 17~19 for KX-P1180/KX-P1191 or page 26 for KX-P1123 of this manual).
- (11) Replace the upper cabinet, smoked plastic cover, top cover and platen knob.

Note:

After installation, the following parts will be unused.

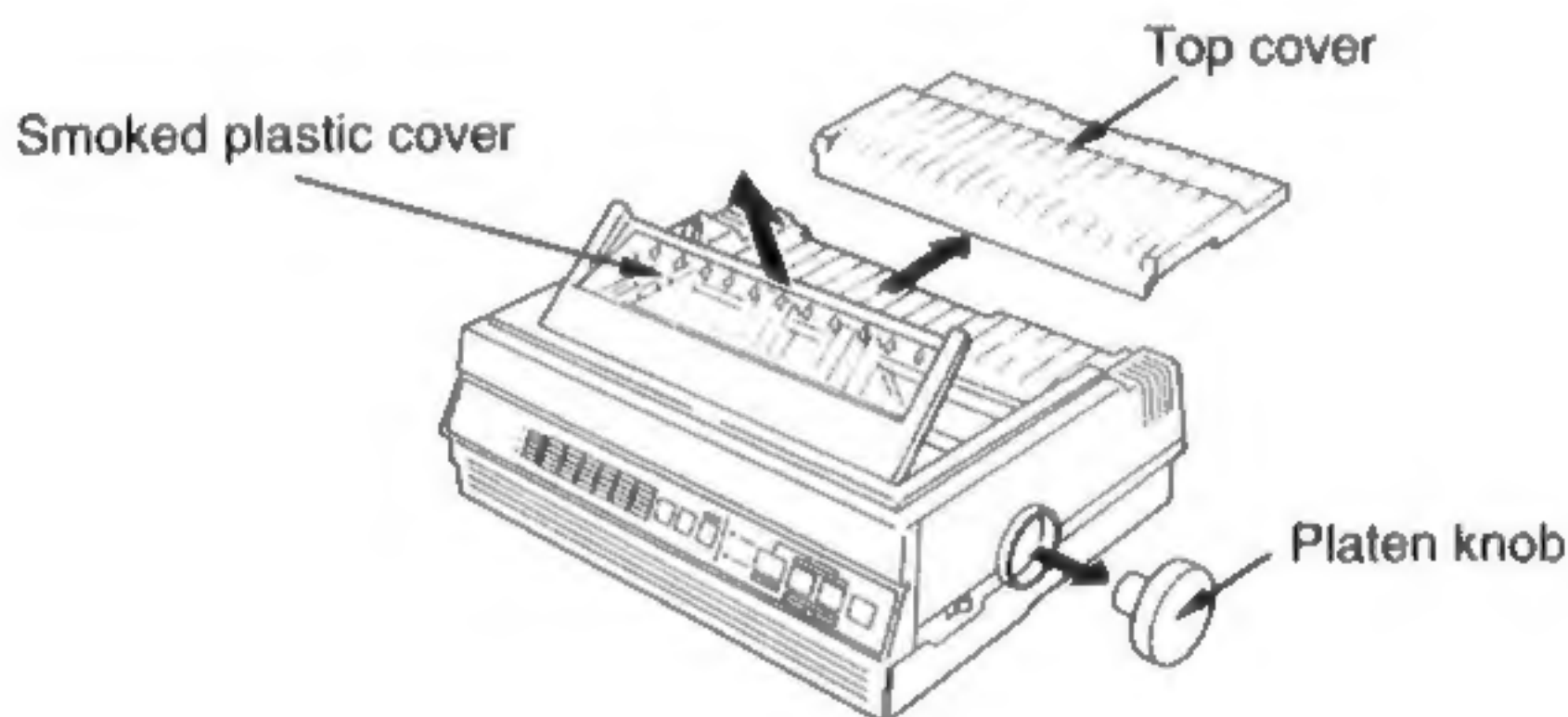
Red screw B	1
Hexagonal screw	1

(B) KX-P1124/KX-P1124i

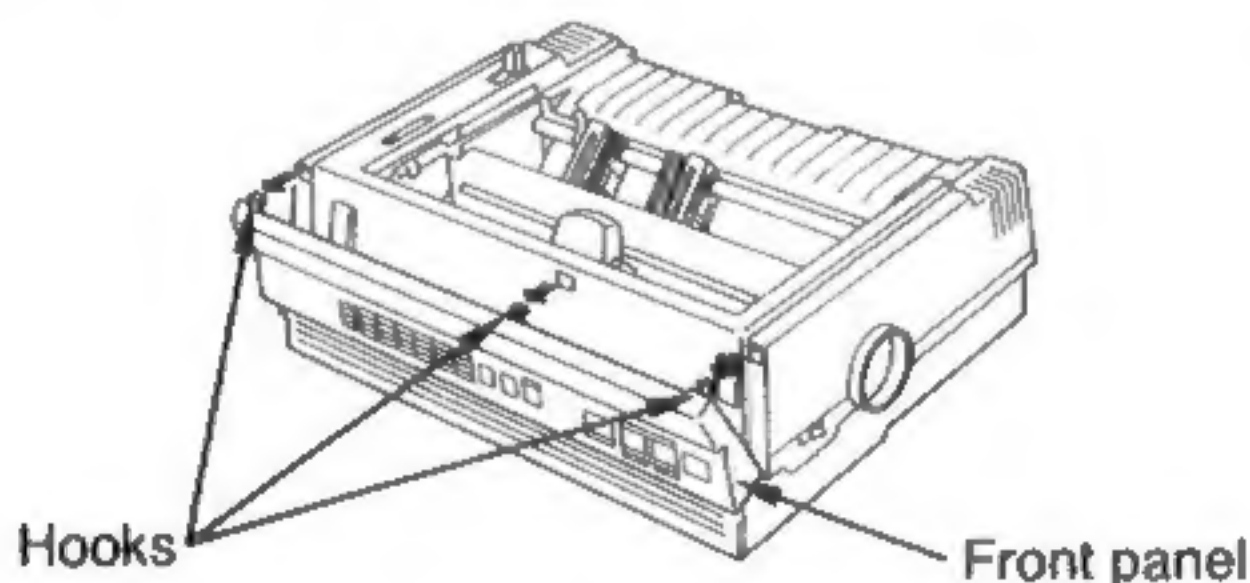
Note:

The illustrations you see are drawn from KX-P1124.

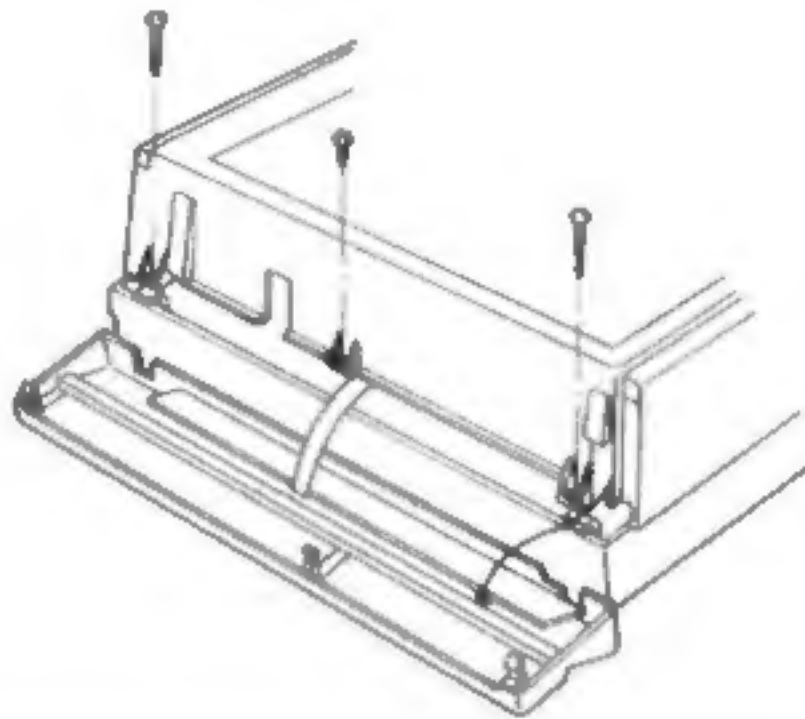
- (1) Remove the smoked plastic cover, top cover and the platen knob.



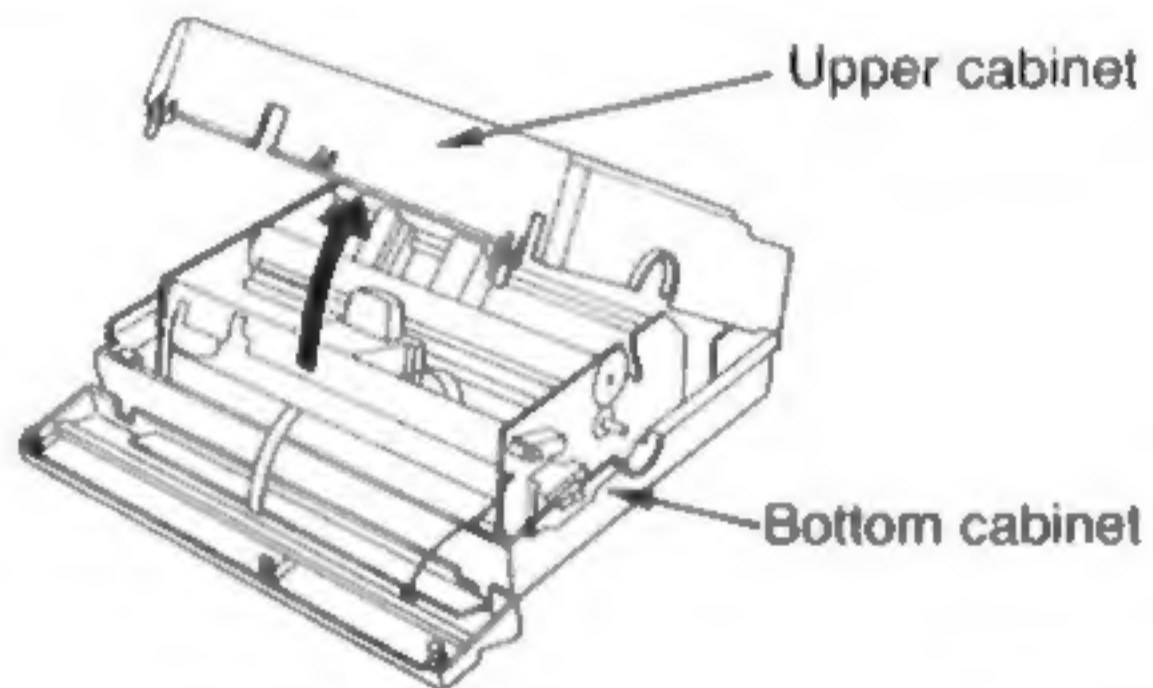
- (2) To remove the front panel, release three hooks by pulling the upper side of the front panel.



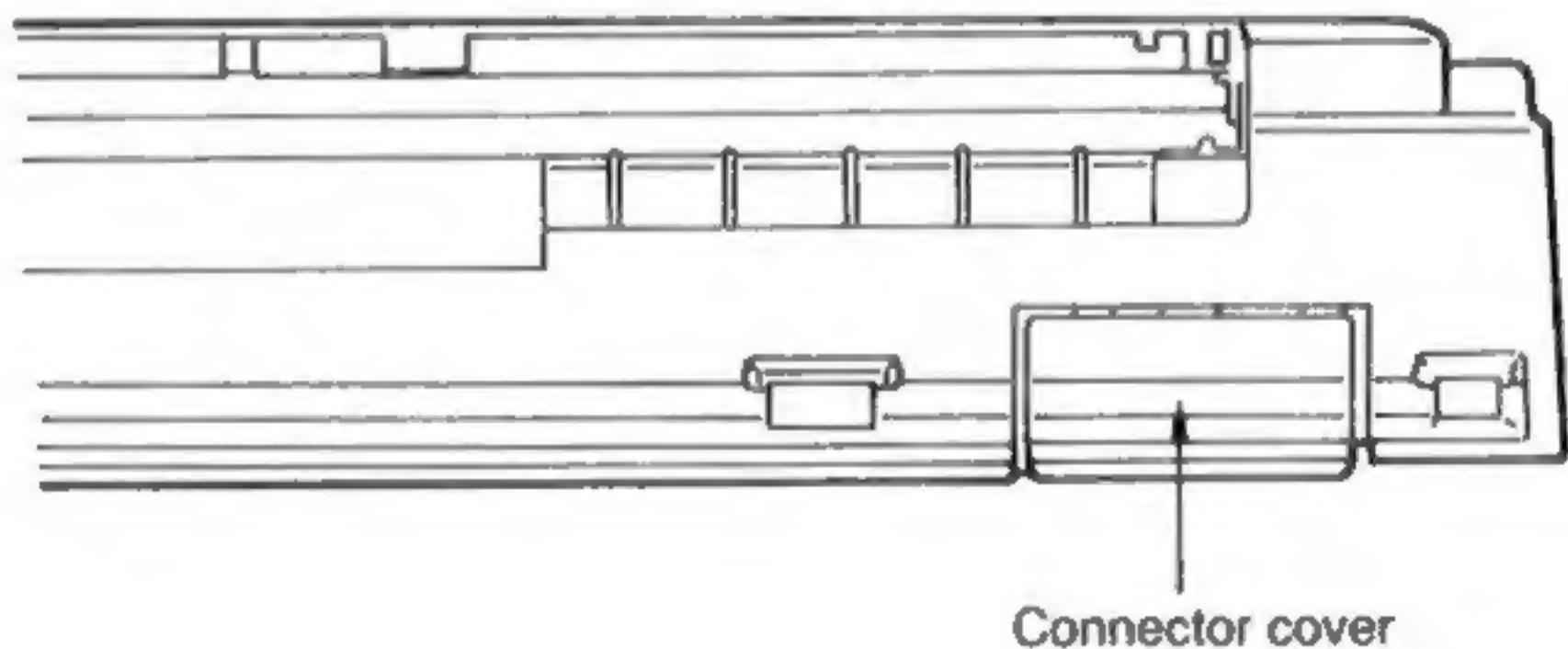
(3) Remove the three screws from the upper cabinet.



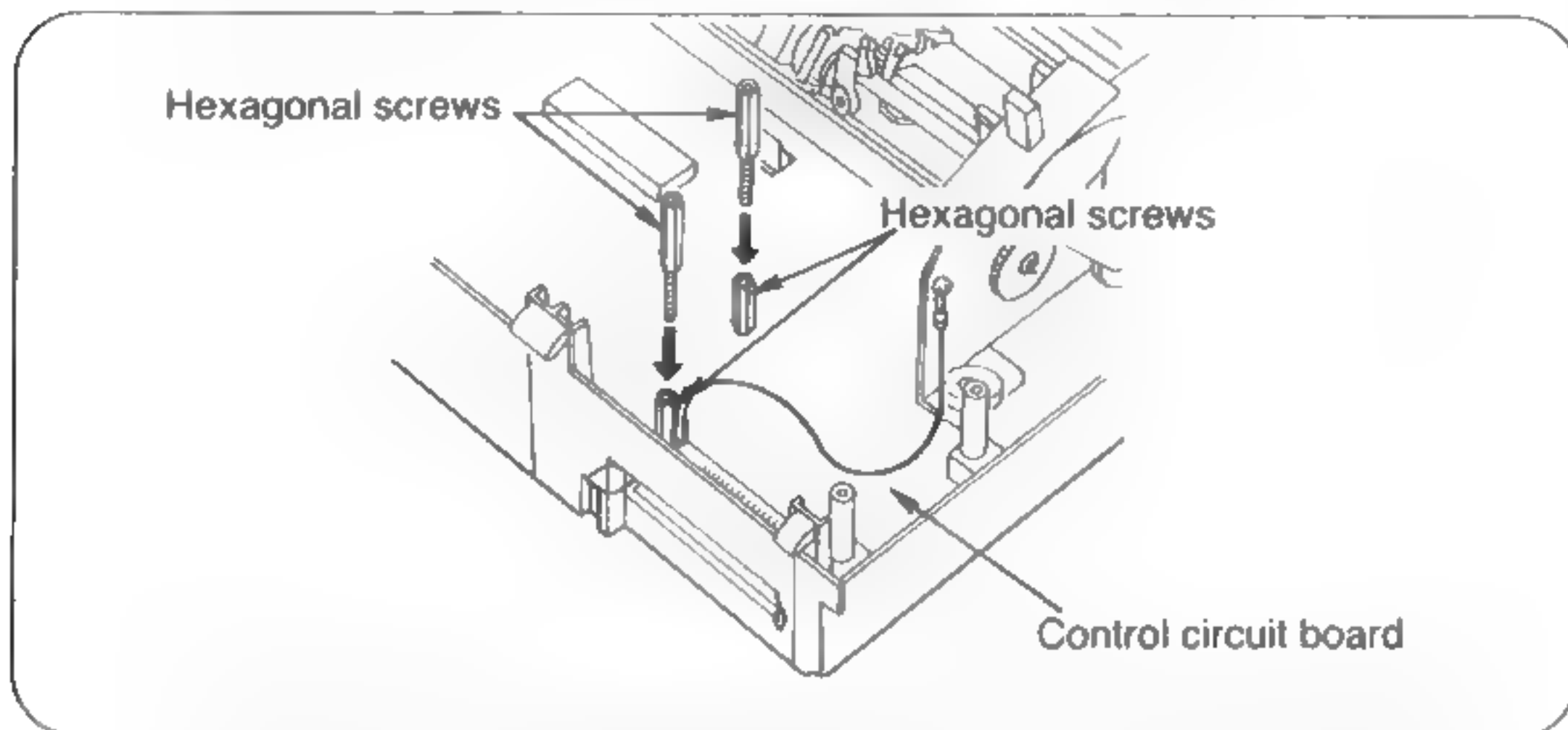
(4) Carefully raise and remove the upper cabinet from the bottom cabinet.



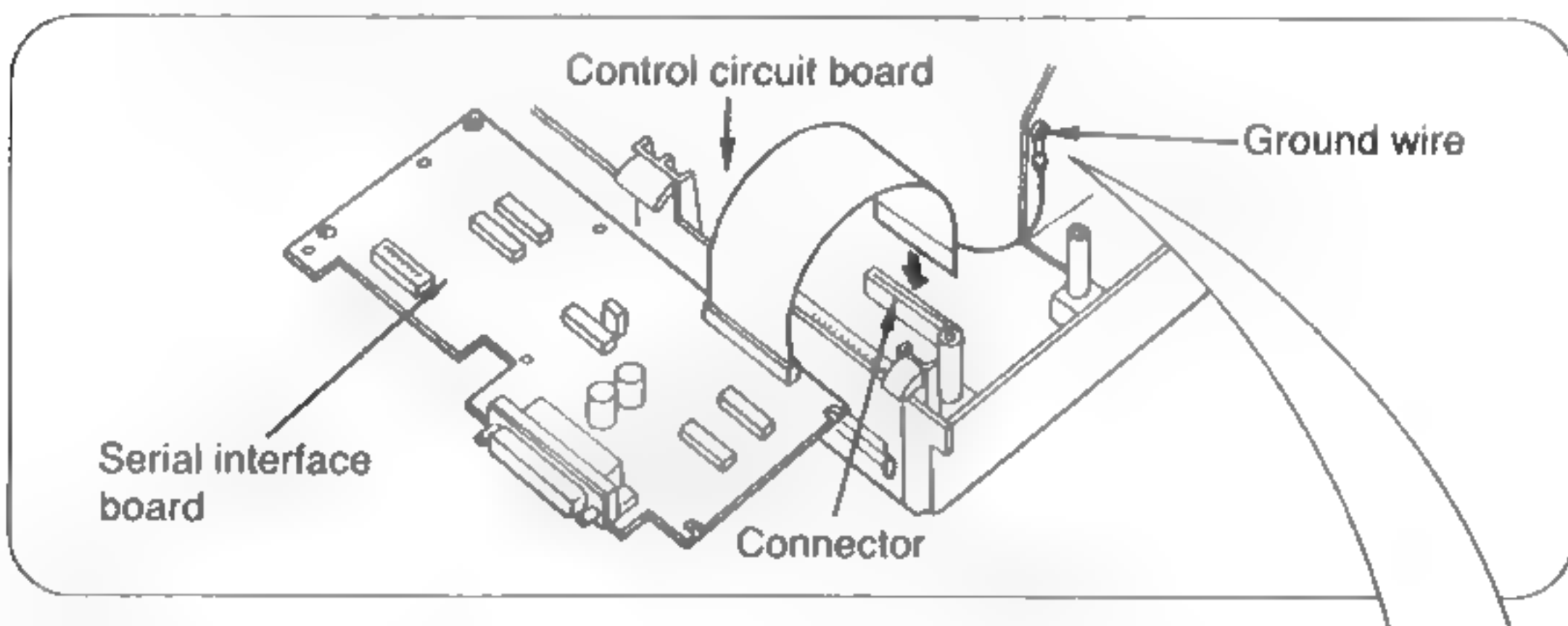
(5) Remove the connector cover from the rear of the upper cabinet.



- (6) Screw the hexagonal screws to the hexagonal screws on the control circuit board inside the printer.

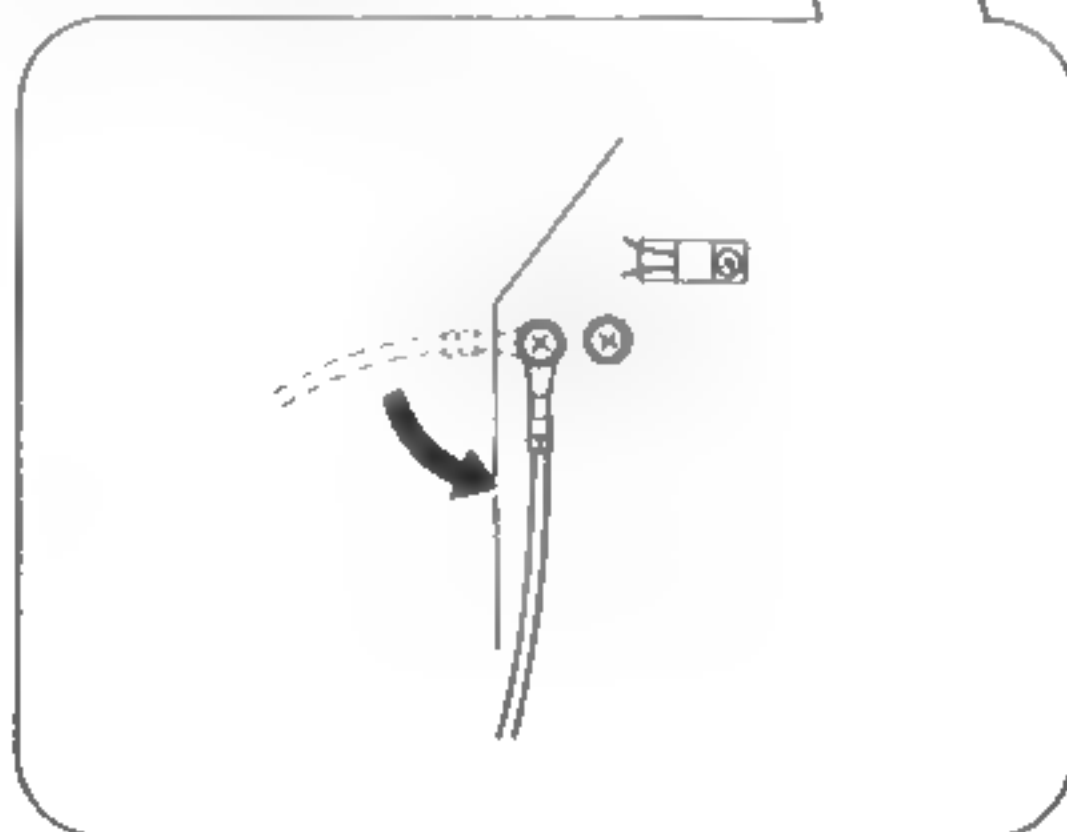


- (7) Connect the cable of the serial interface board to the connector on the control circuit board.

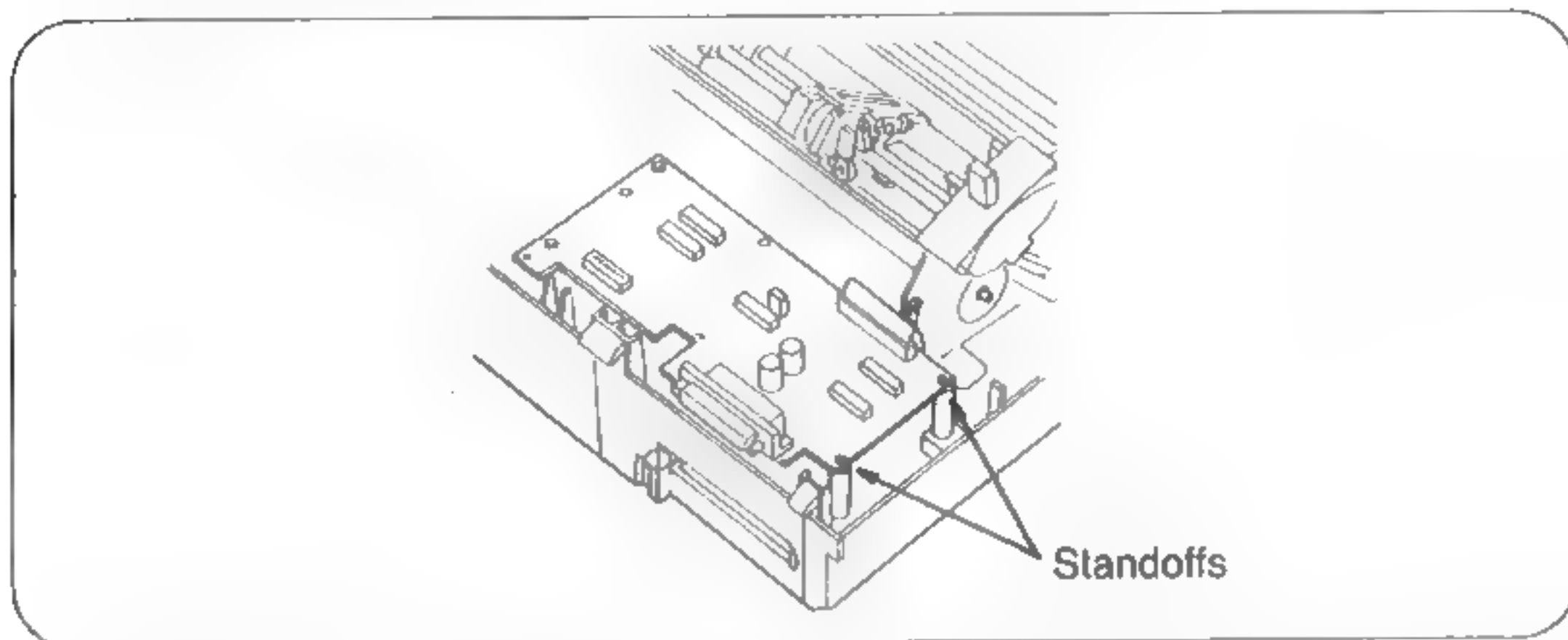


Note:

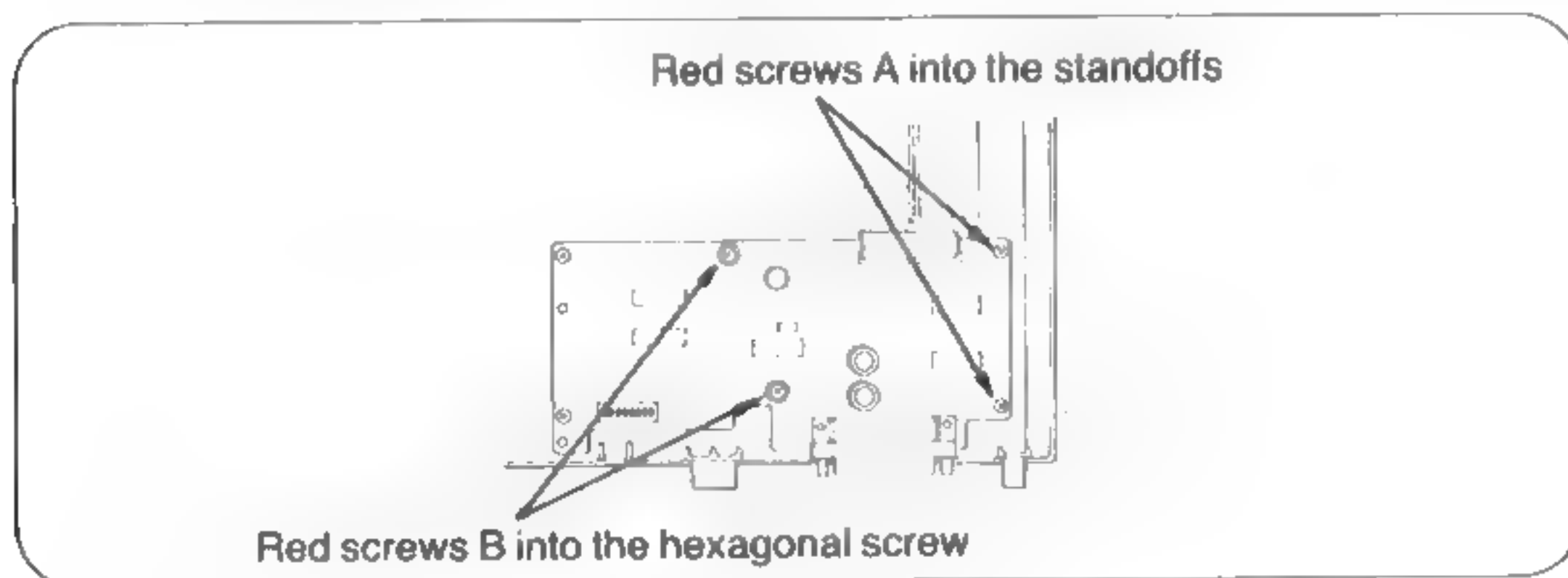
Please move ground wire connector as shown in diagram.



- (8) Install the serial interface board on two hexagonal screws and two standoffs.



- (9) Secure the serial interface board with two red screws A and two red screws B.



- (10) Replace the upper cabinet, front panel, smoked plastic cover, top cover and platen knob.
- (11) Set the serial parameters by following the instructions on pages 20~22 for KX-P1124 or pages 23~26 for KX-P1124i in this manual.

Note:

After installation, the following parts will be unused.

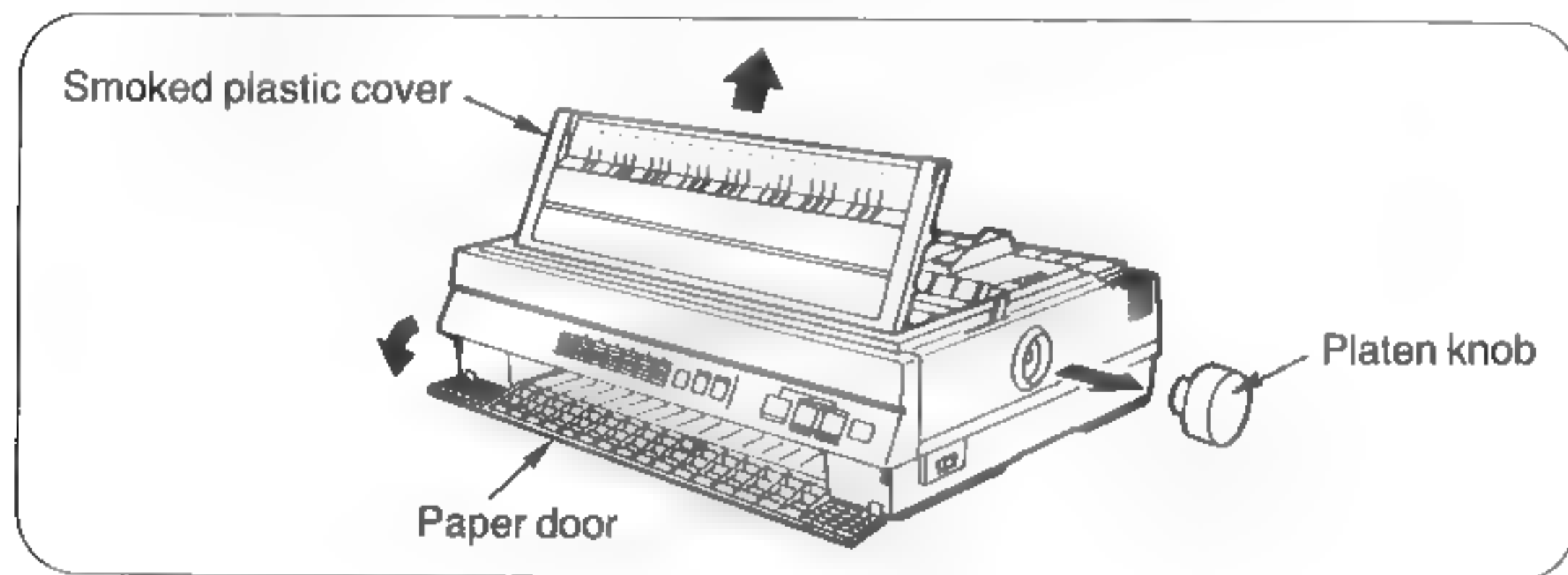
Red screw A	1
Spacer	1

(C) KX-P1624/KX-P1695

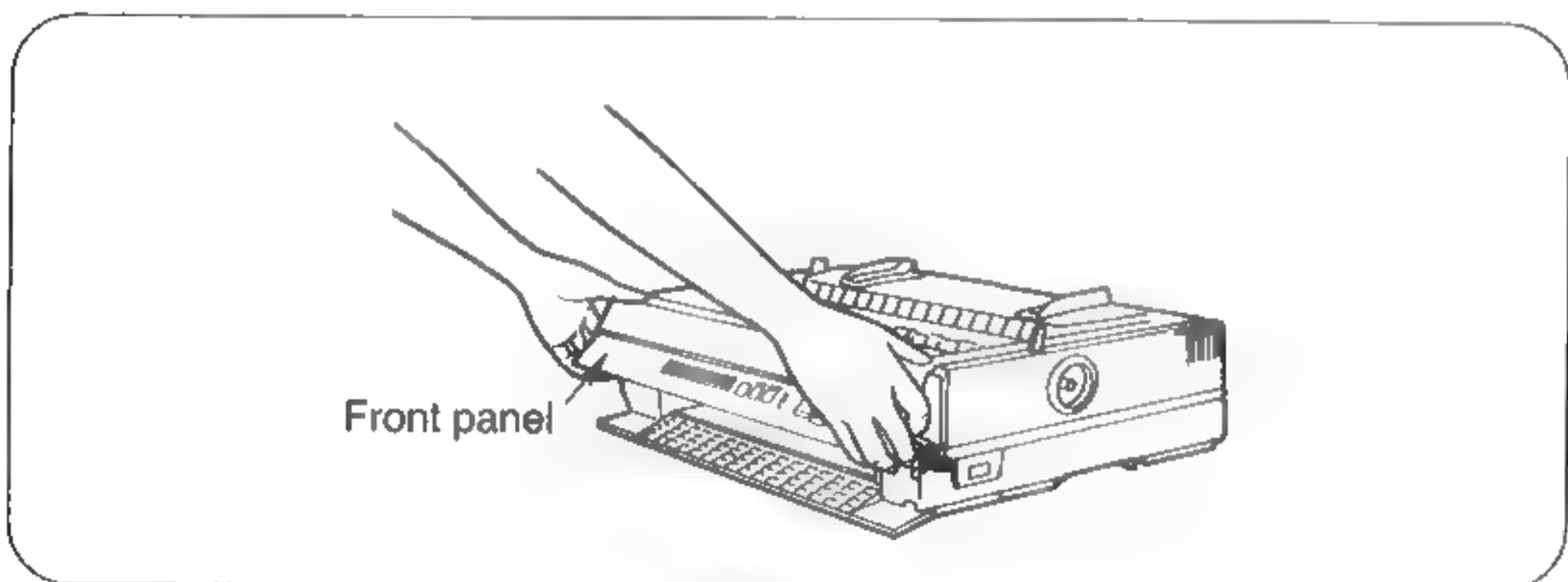
Note:

The illustrations you see are drawn from KX-P1624.

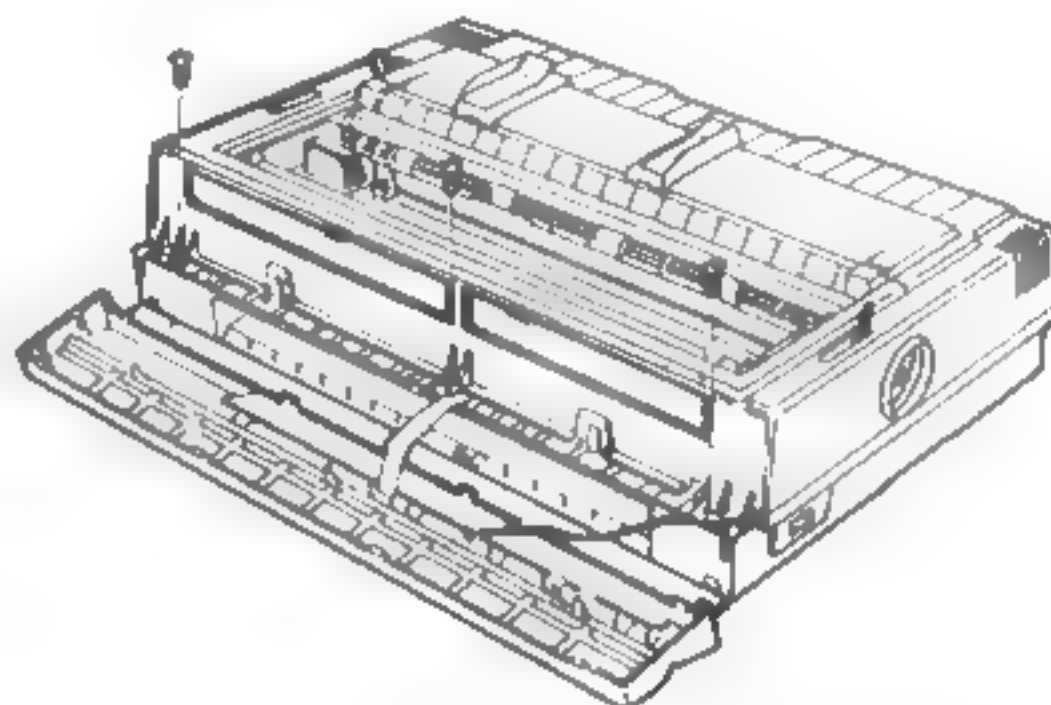
- (1) Remove the smoked plastic cover and the platen knob. The platen knob will pull straight out.



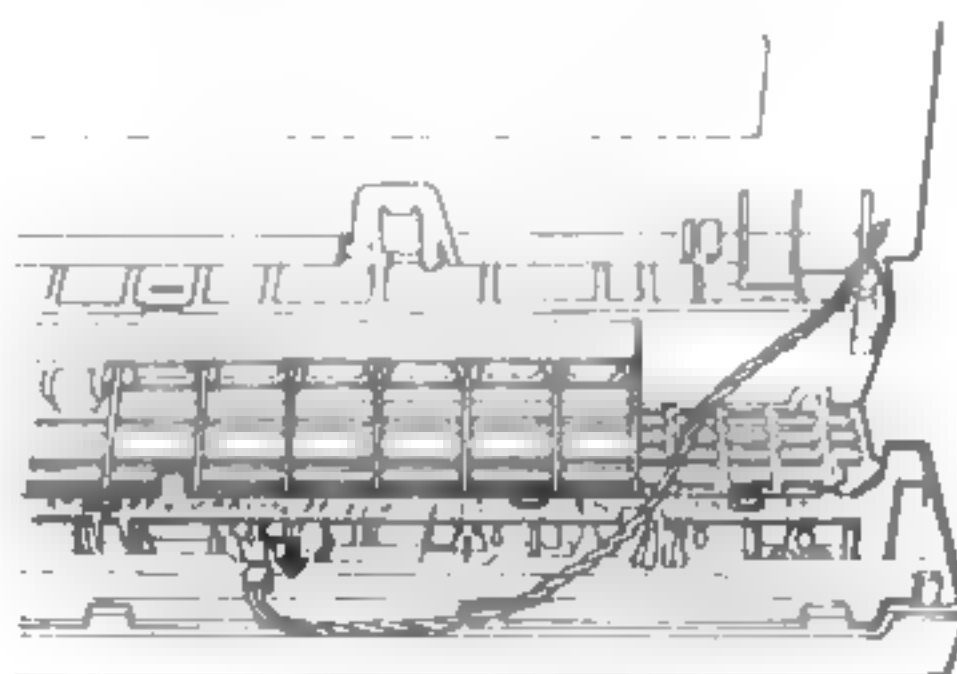
- (2) Open the paper door on the front of printer.
- (3) To release the hooks(4) grab the front panel and pull the bottom, it will swing out from the bottom toward you.



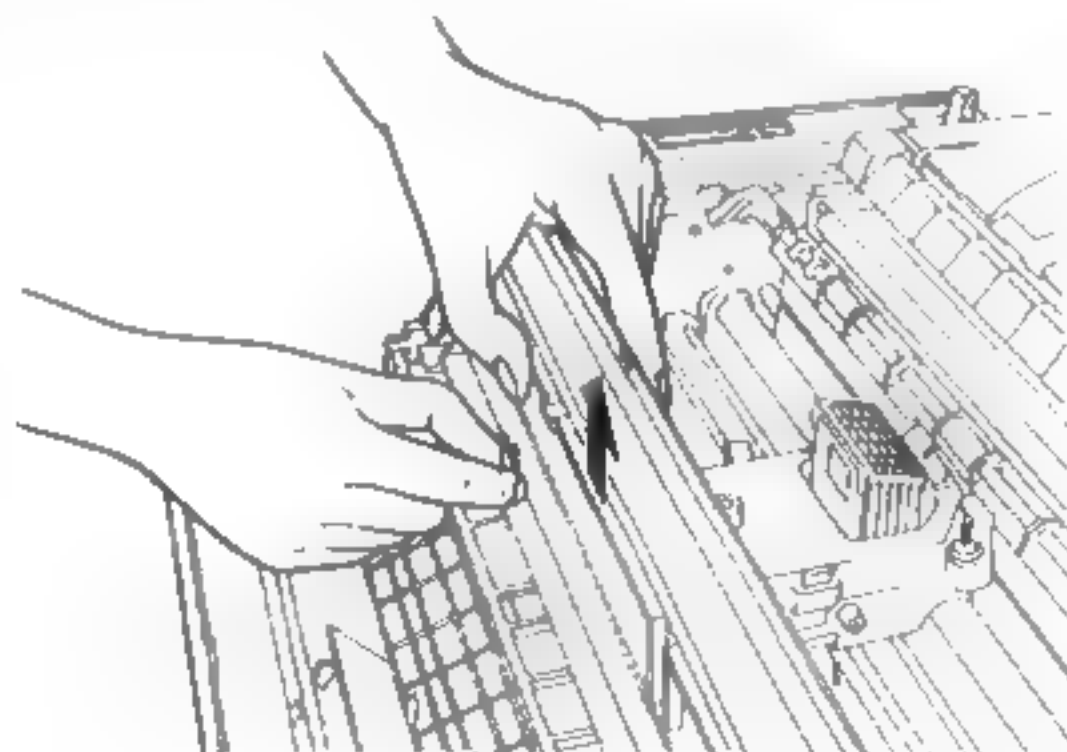
(4) Remove the screws(3) from the upper cabinet.



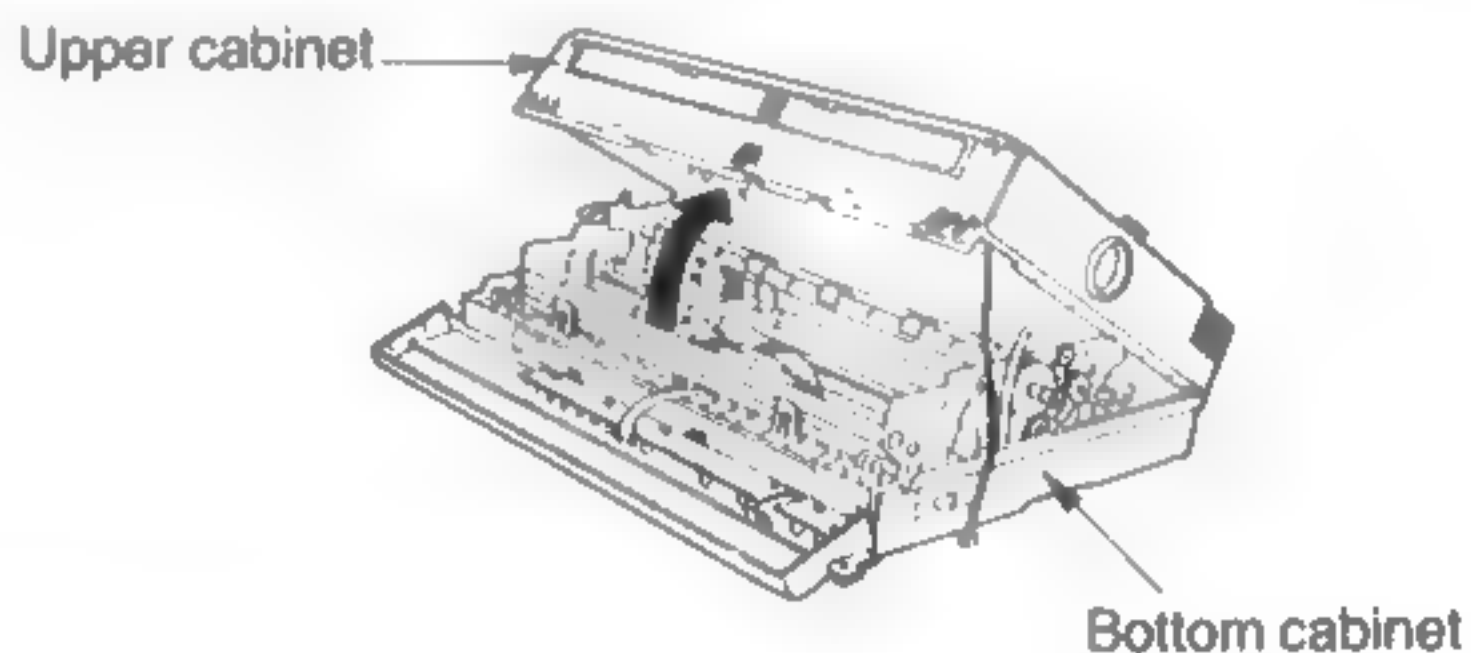
(5) Carefully unplug the connector from the front panel.



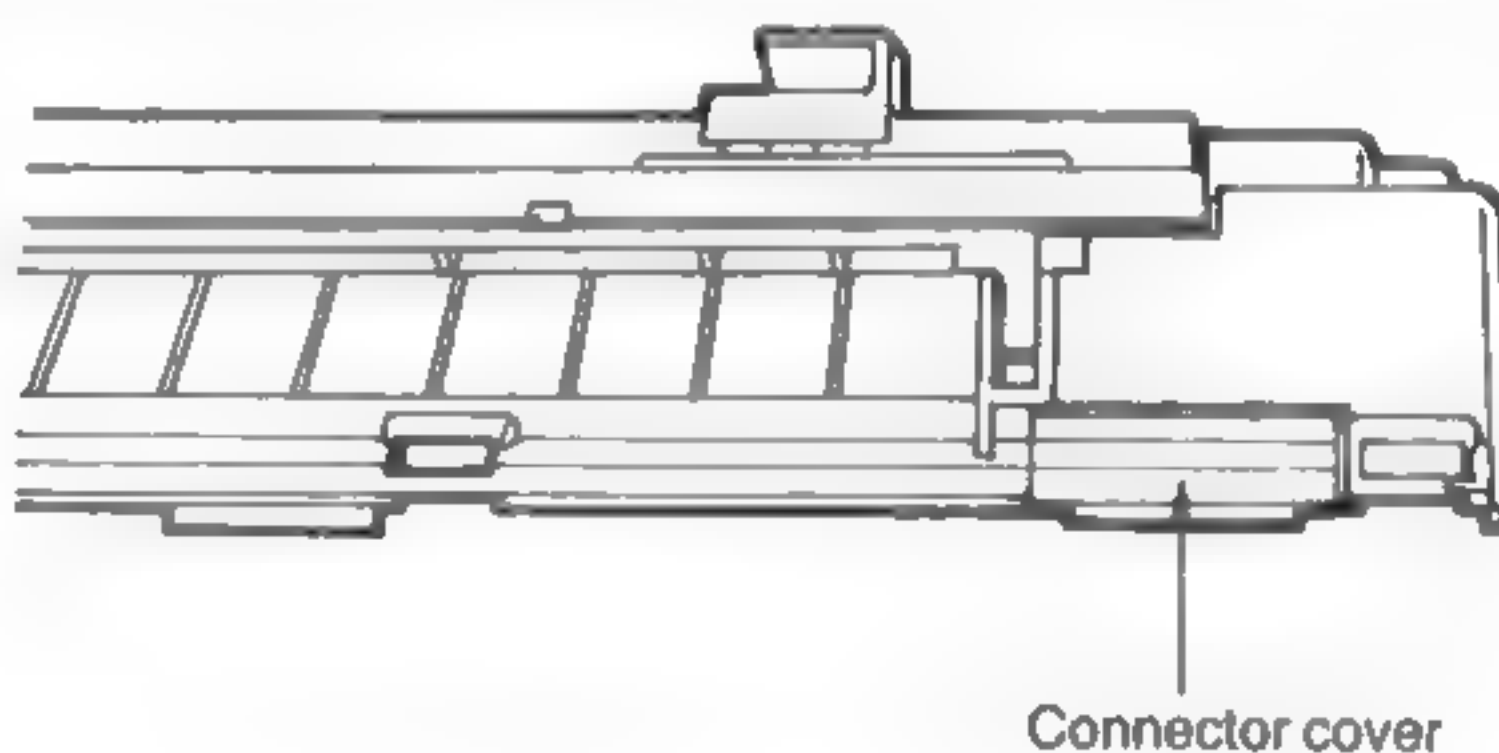
(6) Raise the front of the upper cabinet by releasing the hooks(2) located in the front.



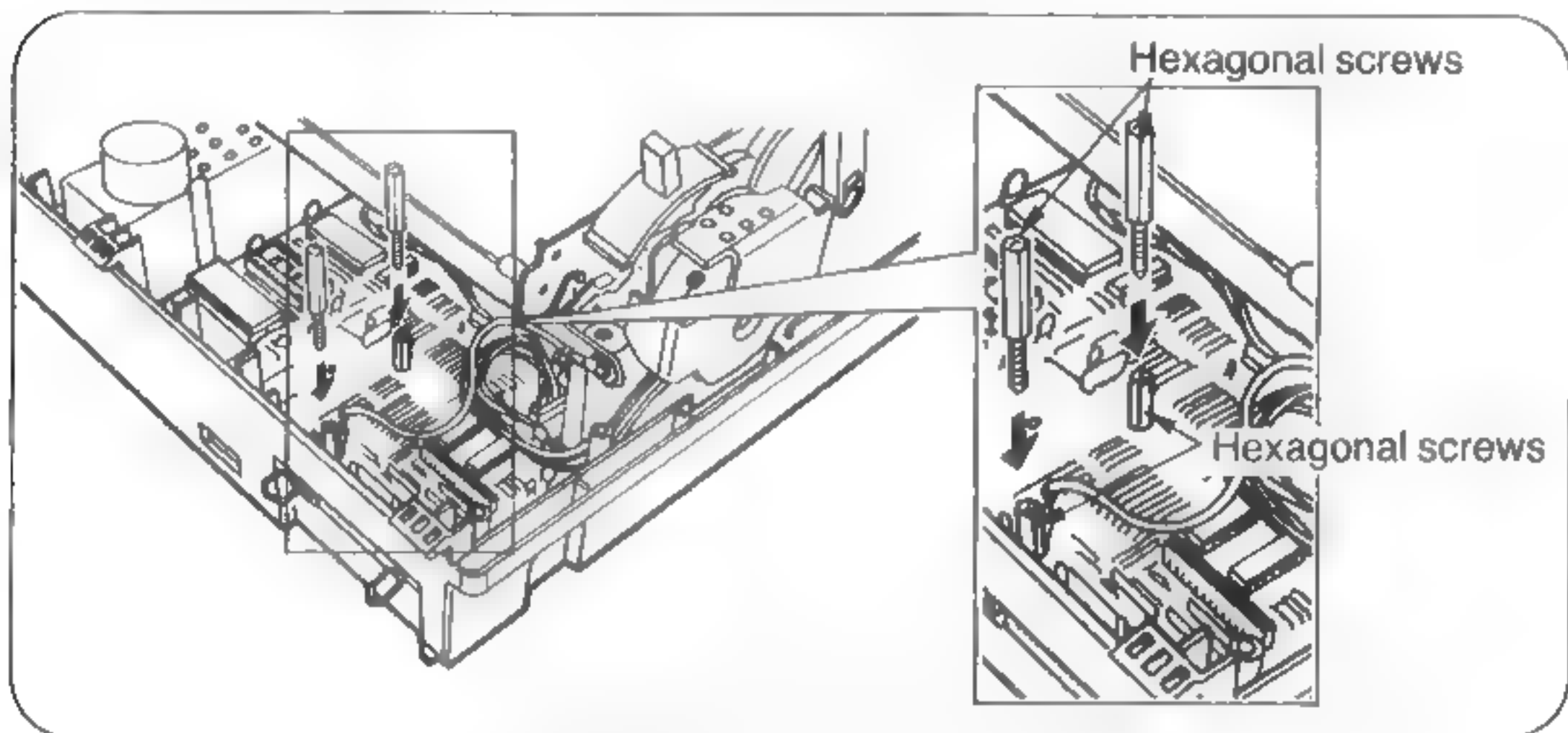
- (7) Carefully raise and remove the upper cabinet. Note how it is latched into the bottom cabinet at the rear of the printer. This will help you when you reinstall the cabinet.



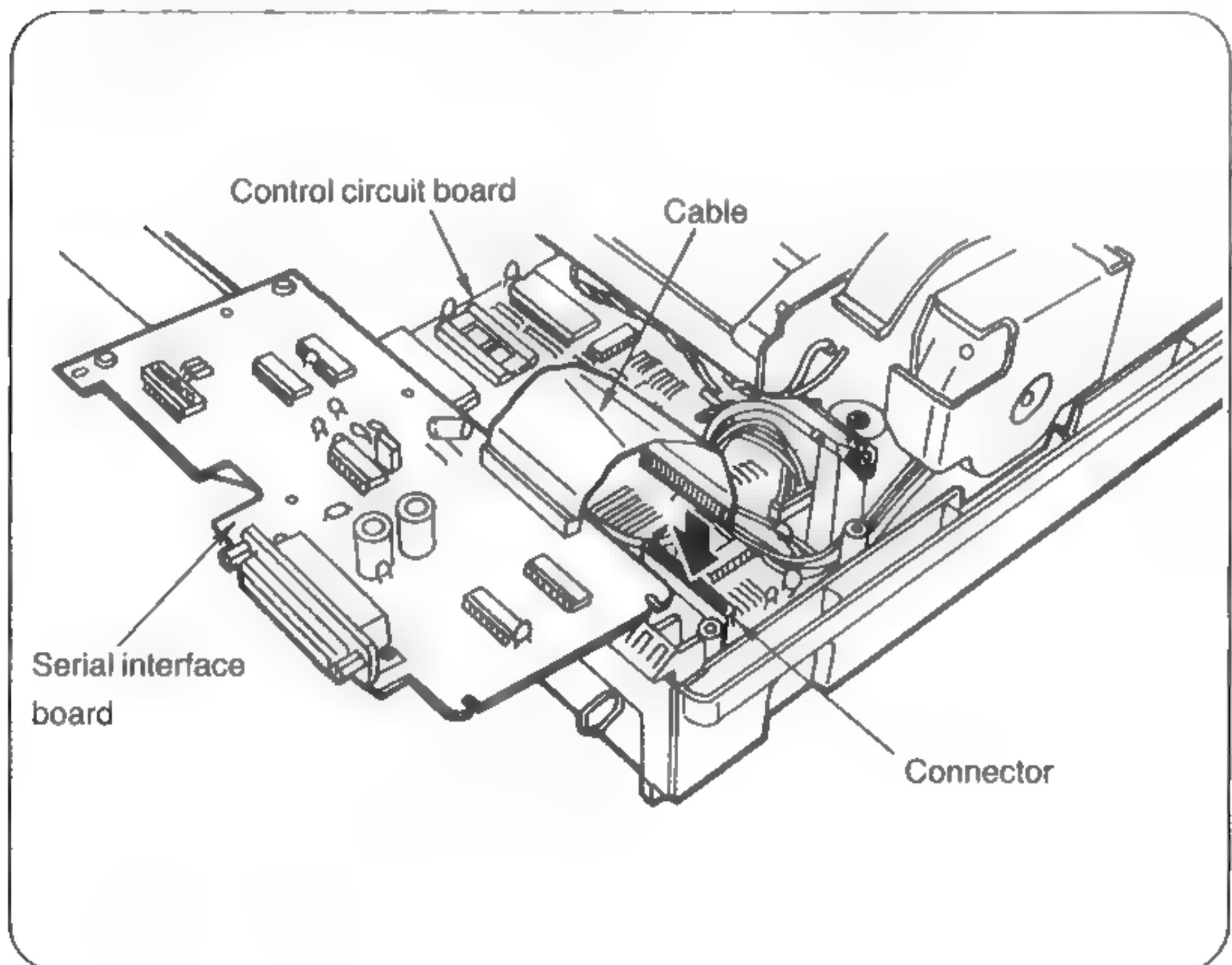
- (8) Remove the connector cover from the rear of the upper cabinet.



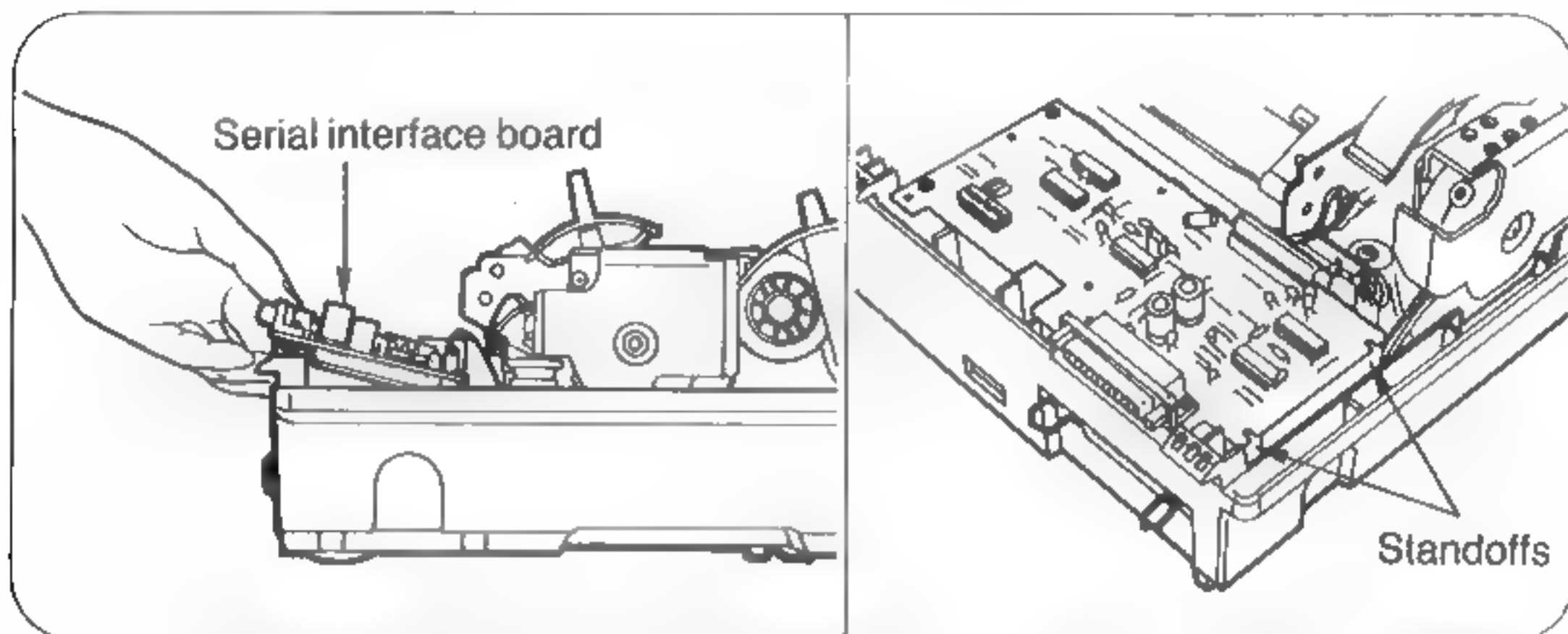
- (9) Screw the hexagonal screws to the hexagonal screws on the control circuit board inside the printer.



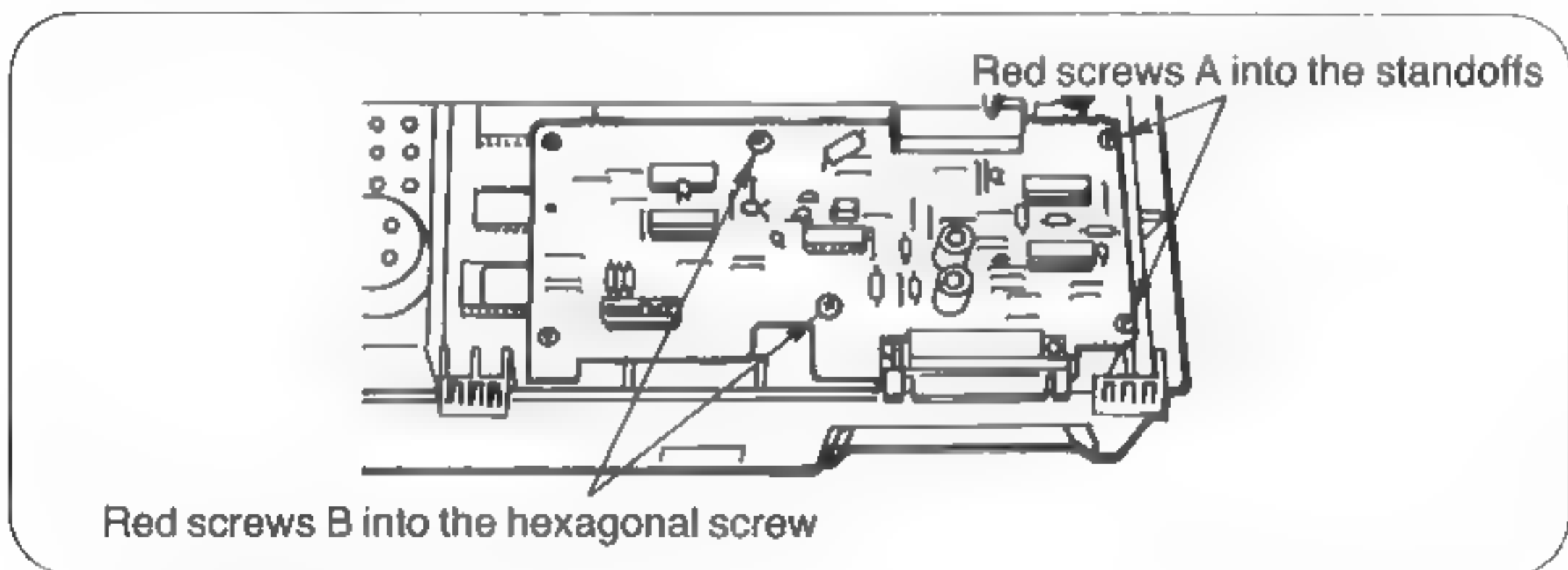
- (10) Connect the cable of the serial interface board to the connector on the control circuit board.



- (11) Install the serial interface board on two hexagonal screws and two standoffs.



- (12) Secure the serial interface board with two red screws A and two red screws B.



- (13) Replace the upper cabinet, front panel, smoked plastic cover and platen knob.
- (14) Set the serial parameters. Refer to page 26 of this manual for more detailed information.

Note:

After installation, the following parts will be unused.

Red screw A	1
Spacer	1

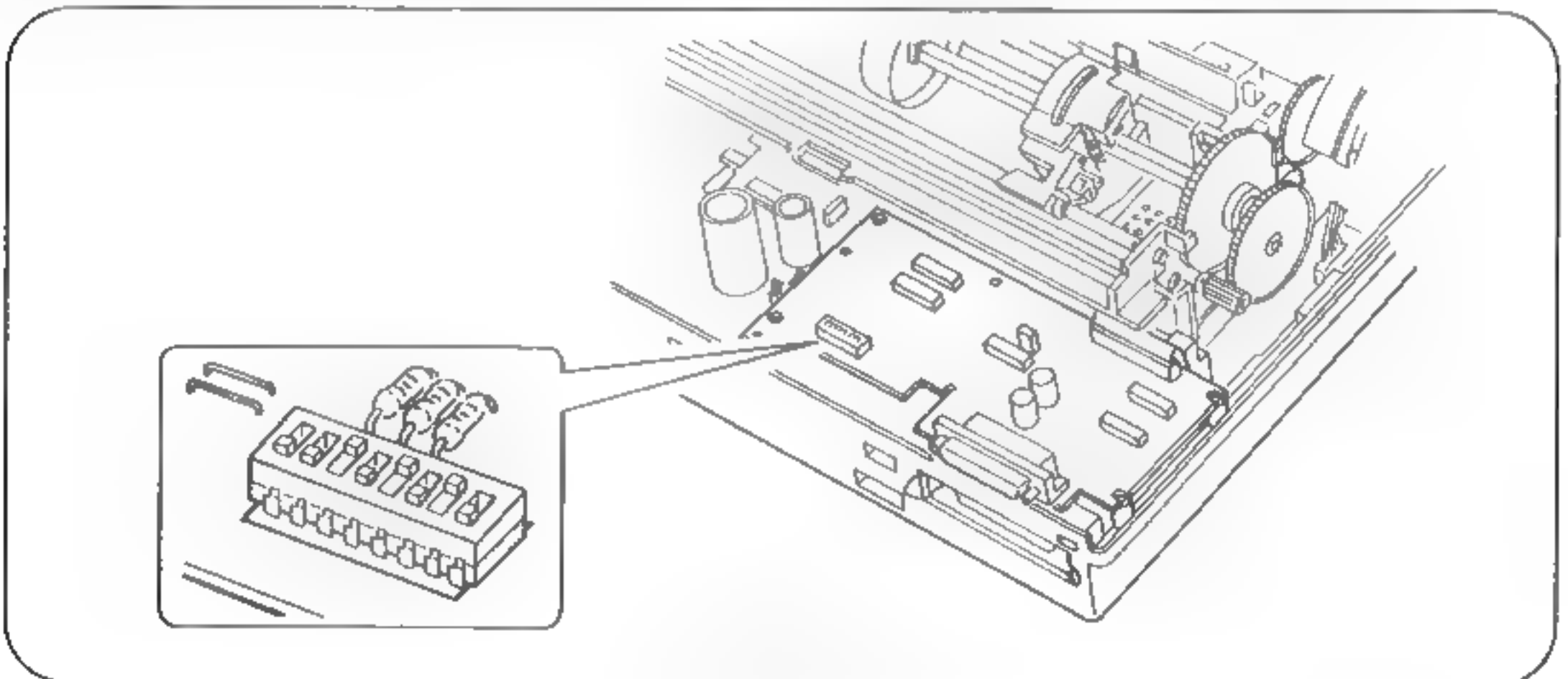
2. Communications Set Up

- Make sure the settings for the computer interface and the printer interface match. Make sure the printer is turned off during setup.
- Printer interface function settings at shipment:
 1. Protocol: DTR
 2. Baud rate: 1200 Baud (KX-P1180/KX-P1191)
or 9600 Baud (KX-P1123/KX-P1124/KX-P1124i/
KX-P1624/KX-P1695)
 3. Data length: 8 bit
 4. Parity check: Invalid (KX-P1180/KX-P1191/KX-P1124i)
or Valid (KX-P1123/KX-P1124/KX-P1624/
KX-P1695)

Note: If the computer interface cannot be set, set printer interface mode or DIP switches to conform to the computer's specifications.

3. Setting the Printer Interface

A Using the KX-P1180/KX-P1191 with KX-PS10



Location of adapter DIP switch

(Factory settings are denoted with*)

•**SW1-1, SW1-2 and SW1-3 Setting the baud rate**

The printer baud rate can be set to that of the computer by using adapter DIP switches SW1-1, SW1-2 and SW1-3. Refer to baud rate setting table on page 19.

Be sure to turn off the printer before setting baud rate.

•**SW1-4 Setting the data length**

Designate a 7 or 8 bit data length by setting SW1-4.

ON	7 Bit
OFF*	8 Bit

•**SW1-5 Selection of parity check**

“Parity Check” is an error-checking system to check received data.

ON*	Without parity check (Invalid)
OFF	With parity check (Valid)

•**SW1-6 Selecting odd/even parity**

When the computer is using a parity check system set SW1-6 to odd or even parity to match that of the computer.

ON	Odd parity
OFF*	Even parity

•**SW1-7 Designation of signal polarity for DTR protocol**

Adjust the signal polarity of the printer to match that of the computer by setting SW1-7.

ON*	When the signal is “mark”, the printer tells the computer that it can not accept transferring data.
OFF	When the signal is “space”, the printer tells the computer that it can not accept transferring data.

mark: logic “1” (–12 V)

space:logic “0” (+12 V)

•SW1-8 Selecting X/ON-X/OFF and DTR protocol

DTR protocol indicates the printer condition with DTR signal. X/ON-X/OFF protocol indicates the printer condition using ASCII codes corresponding to X/ON-X/OFF.

ON X/ON-X/OFF Protocol
OFF* DTR Protocol

Adapter DIP switch settings

Switch number	Function	ON	OFF	Factory setting
SW1-1 SW1-2 SW1-3	Baud Rate Select	Refer to the Baud Rate Setting Table		OFF OFF ON
SW1-4	Data length	7 bit	8 bit	OFF
SW1-5	Parity check	Invalid	Valid	ON
SW1-6	Odd/Even parity	Odd	Even	OFF
SW1-7	Signal polarity	Mark	Space	ON
SW1-8	Protocol	X/ON-X/OFF	DTR	OFF

Baud rate setting table

Switch number Baud rate	SW1-1	SW1-2	SW1-3
150	ON	ON	ON
300	OFF	ON	ON
600	ON	OFF	ON
1200*	OFF	OFF	ON
2400	ON	ON	OFF
4800	OFF	ON	OFF
9600	ON	OFF	OFF

*Factory setting

B Using the KX-P1124 with KX-PS10

When using the KX-P1124 with KX-PS10, the following modes must be set through the EZ Set Operator Panel on the KX-P1124. (Factory settings are denoted with *.)

•Data length setting mode

ON	7 bit
OFF*	8 bit

•Baud rate select mode

Select one of 7 printer baud rates—150, 300, 600, 1200, 2400, 4800 and 9600*.

•Parity control select mode

Select one of 4 parity controls—No parity, Ignore parity, Odd parity and Even parity*.

•Protocol select mode

ON	X/ON-X/OFF Protocol
OFF*	DTR Protocol

•Remaining buffer capacity (R.B.C.) mode to resume data transfer (R.D.T.) (X/ON)

ON*	288 bytes
OFF	152 bytes

•Designation of signal polarity for DTR protocol mode

ON	When the signal is “space”, the printer tells the computer that it can not accept transferring data.
OFF*	When the signal is “mark”, the printer tells the computer that it can not accept transferring data.

Note: The KX-PS10 DIP switches are ignored when installed in the KX-P1124. The settings are made through the front panel of the KX-P1124.

The 8th through 12th rows are added to Initial Setup mode, when KX-PS10 is installed.

The additional Initial Setup modes are as follows:

Row indicator light				Column indicator light					
R1	R2	R3	Row	C1	C2	C3	C4	C5	C6
BLK	OFF	OFF	7th	DLL Buffer	C.S.F.	Buzzer	Zero Font	A.G.M.	Data length
BLK	BLK	OFF	8th	—	—	—	—	—	—
OFF	BLK	OFF	9th	150	300	600	1200	2400	4800
OFF	BLK	BLK	10th	9600	—	No Parity	Ignore Parity	Odd Parity	Even Parity
OFF	OFF	BLK	11th	Protocol	R.D.T.	Signal Polarity	—	—	—
BLK	BLK	BLK	12th	Current condition print mode					

—: Not used BLK: Light is blinking OFF: Light is out

Note: For 1st~7th row positions in the Initial Setup mode, refer to pages 3-12~3-16 in the KX-P1124 Operating Instructions and Quick Reference Card.

Selecting and setting the serial interface modes

You can easily select and set these modes with the following procedures:

1. To enter the Initial Setup mode, turn the power switch on while pressing the FUNCTION switch.
2. Printing the current Initial Setup mode conditions for confirmation:
 - (1) Make sure that the paper is installed.
 - (2) Press the ROW switch to advance to the 6th row (all row indicator lights are illuminated).
 - (3) Press the SET switch to print current setting condition.

3. Selecting and setting the serial interface modes:

A) When setting the data length:

- (1) Press the ROW switch to advance to the 7th row.
- (2) Press the COLUMN switch to advance the column position to the data length (see additional Initial Setup mode chart on page 21).
- (3) Press the SET switch to set the mode to ON or OFF.

B) When selecting baud rate or parity control:

- (1) Press the ROW switch to advance to the 9th or 10th row.
- (2) Press the COLUMN switch to advance the column position to the desired one (see additional Initial Setup mode chart on page 21).
- (3) Press the SET switch to make the actual selection.

C) When setting protocol or remaining buffer capacity or designating the signal polarity of DTR:

- (1) Press the ROW switch to advance to the 11th row.
- (2) Press the COLUMN switch to advance the column position to the desired one (see additional Initial Setup mode chart on page 21).
- (3) Press the SET switch to set the mode to ON or OFF.

Note: When data length, protocol, R.D.T. and signal polarity modes are set to ON, the column indicator light is lit. When modes are set to OFF, the column indicator light blinks.

4. Printing the current Initial Setup mode conditions for confirmation:

- (1) Press the ROW switch until all row indicator lights are illuminated or blinking (6th or 12th row position).
- (2) Make sure that the paper is installed.
- (3) Press the SET switch to print current setting conditions.

5. Press the FUNCTION switch to return to the normal mode.

C Using the KX-P1124i with KX-PS10

When using the KX-P1124i with KX-PS10, the following conditions must be set through the EZ Set Operator Panel on the KX-P1124i. The following INTERFACE menu will be added to the existing menus. Only data length is selected in the INSTALL menu (see page 25 for data length selection).

Main Menu	Item-Menu 9	Selection	Function
INTER-FACE	BAUD RATE	#	#: 9600*, 4800, 2400, 1200, 600, 300, 150 Selects one of 7 printer baud rates.
	PARITY	NONE*	Selects one of 4 parity controls.
		IGNORE	
		ODD	
		EVEN	
	PROTOCOL	DTR*	Selects DTR Protocol or X/ON-X/OFF Protocol.
		XON/OFF	
	SDT	RBC 128*	Selects the remaining buffer capacity (R.B.C.) 128 byte or 512 byte to suspend data transfer (S.D.T.) (X/OFF).
		RBC 512	
	RDT	SDT + 128*	Selects the remaining buffer capacity (R.B.C.) 128 byte or 256 byte to resume data transfer (R.D.T.) (X/ON).
		SDT + 256	
	DTR SGNL	MARK*	When the signal is "MARK", the printer tells the computer that it cannot accept transferring data.
		SPACE	When the signal is "SPACE", the printer tells the computer that it cannot accept transferring data.

(FACTORY settings are denoted with *.)

Note: For the other menus in the Function mode, refer to section 3.2 in the KX-P1124i Operating Instructions or Quick Reference Card.

In the RDT Item-menu,

when the S.D.T. (X/OFF) is set to R.B.C. 128

S.D.T.+128=256 byte

S.D.T.+256=384 byte

when S.D.T. is set to R.B.C. 512

S.D.T.+128=640 byte

S.D.T.+256=768 byte

Selecting and setting the INTERFACE menu

You can easily select and set this menu with the following procedures:

1. To enter the Function mode, press the FUNCTION switch in the OFF LINE mode or when the printer is not printing in the ON LINE mode. (Verify the ON LINE/FUNCTION indicator is blinking.)
2. Printing the current Function mode settings for confirmation:
 - (1) Make sure that the paper is installed.
 - (2) Press the QUIET (MENU) switch to enter the main Menu.
 - (3) Press the QUIET (MENU) switch until the display shows "PRINT SETTING". You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
 - (4) Press the ON LINE (SET) switch to print current settings.

3. Selecting and setting the INTERFACE menu:

A) When setting the data length:

- (1) Press the QUIET (MENU) switch to enter the main Menu.
- (2) Press the QUIET (MENU) switch until the display shows "INSTALL". You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
- (3) Press the P.CUT (ITEM) switch until "D.LENGTH" is shown on the left side of the display. You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
- (4) Press the LOAD/PARK (SELECTION) switch and select "8 BIT" or "7 BIT" (shown on the right side of the display).
- (5) Press the ON LINE (SET) switch to set the selection.

B) When selecting the INTERFACE menu:

- (1) Press the QUIET (MENU) switch to enter the main Menu.
- (2) Press the QUIET (MENU) switch until the display shows "INTERFACE". You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
- (3) Press the P.CUT (ITEM) switch until the Item-menu you wish to enter is shown on the left side of the display (see the menu table on page 23). You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
- (4) Press the LOAD/PARK (SELECTION) switch and then select the setting you wish (shown on the right side of the display) by pressing the FF (▲) or LF (▼) switch (see the menu table on page 23).
- (5) Press the ON LINE (SET) switch to set the desired selection.

Note: When "=" is displayed between the Item-menu and the set selection, this indicates the current setting.

4. Printing the current Function mode setting for confirmation:
 - (1) Make sure that the paper is installed.
 - (2) Press the QUIET (MENU) switch to enter the main menu.
 - (3) Press the QUIET (MENU) switch until "PRINT SETTING" is shown on the display. You can also scroll the menu by pressing the FF (▲) or LF (▼) switch.
 - (4) Press the ON LINE (SET) switch to print current settings.
5. Press the FUNCTION switch to return to the normal mode.

[D] Using the KX-P1123/KX-P1624/KX-P1695 with KX-PS10

The KX-PS10 Interface mode settings are explained in the Initial Setup mode section of the Operating Instructions.

KX-P1123: pages 3-18, 21, 23, 24

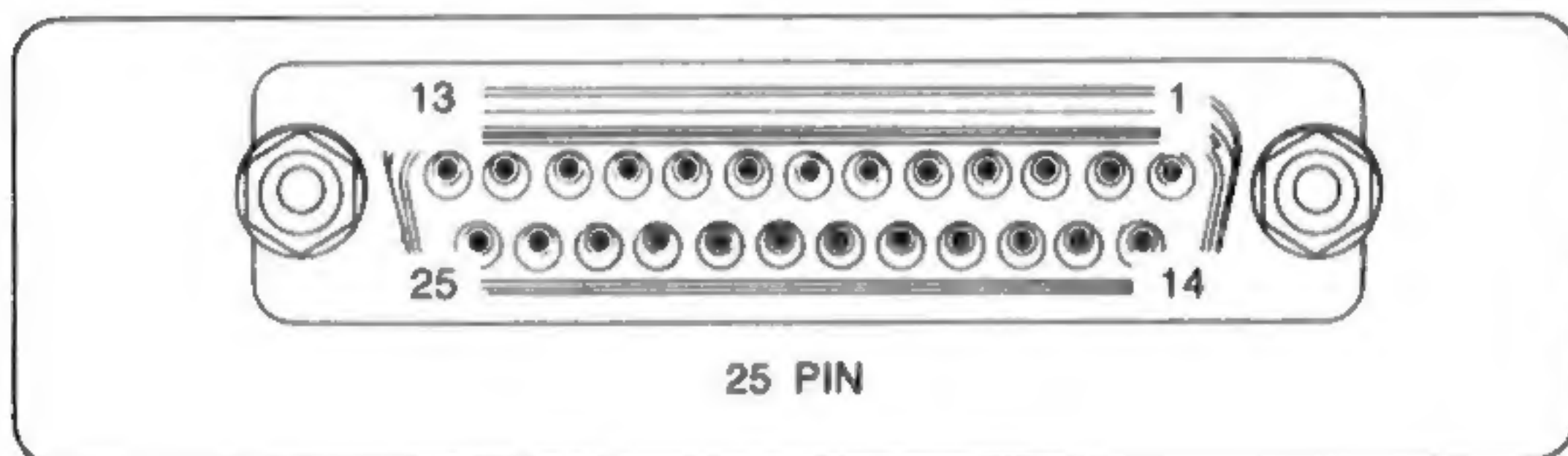
KX-P1624: pages 3-15, 17, 19, 20

KX-P1695: pages 3-14, 16, 18, 19

4. RS-232C Connector Pin Assignment and Signal Descriptions

RS-232C Connector Pin Assignment

Pin No.	Signal	Direction
1	FG	
2	TXD	OUTPUT
3	RXD	INPUT
7	SG	
20	DTR	OUTPUT



Signal Descriptions

RXD...Receive Data

- Inputs serial data from the computer. SPACE (+ side) indicates "0" data; MARK (– side) indicates "1" data.

TXD...Transmit Data

- Outputs serial data to the computer. SPACE indicates "0" data; MARK indicates "1" data.

DTR...Data Terminal Ready

- This signal indicates that the printer is busy.
- When this signal is in the SPACE condition (+ side, EIA level), the printer is ready for data reception when SW1-7 is set to ON (KX-P1180/KX-P1191), DTR protocol mode is set to OFF (KX-P1123/KX-P1624/KX-P1695) or DTR SGNL is set to MARK (KX-P1124i).

FG...Frame Ground

- Frame ground is the same as chassis ground.

SG...Signal Ground

- Connected to signal ground of printers circuit board.

